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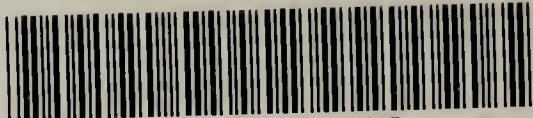
The Twenty-Ninth Annual Report

of

The Medical Officer of Health

1958

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**CITY COUNCIL  
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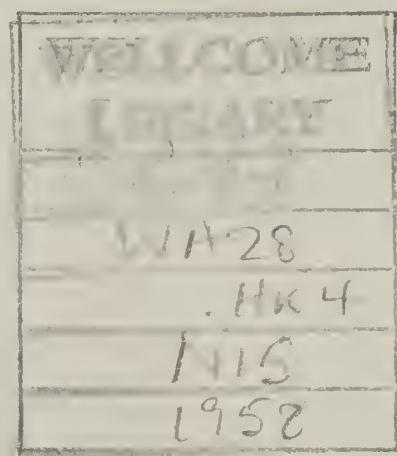


**The Twenty Ninth Annual Report**

**of**

**The Medical Officer of Health**

**1958**



CITY HALL  
N A I R O B I  
15th July, 1959

The Worshipful the Mayor,  
Aldermen and Councillors,  
City Council of Nairobi.

Your Worship, Aldermen and Councillors,

I have the honour to present to you my Annual Report on the sanitary circumstances, sanitary administration, vital statistics and the state of the public health of the City of Nairobi for the year 1958, as required by the Municipalities Ordinance, 1948, and the Medical Officers of Health Rules, Section 2 (12d).

A. T. G. THOMAS  
M.D., B.S., D.P.H.  
Medical Officer of Health.



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## PUBLIC HEALTH COMMITTEE

DECEMBER 1958

Alderman C. Udall, C.B.E. . . . . *Chairman.*

Councillor P. K. Jani . . . . . *Deputy Chairman*

Her Worship the Mayor, Alderman Mrs. M. Needham-Clark.

The Deputy Mayor, Councillor E. S. Wilson, F.R.I.C.S.

Alderman J. S. Karmali.

Alderman Sir Richard Woodley.

Councillor K. V. Adalja, M.B.E.

,, Bakhshish Singh Sian.

,, Mrs. D. E. Clarke.

,, J. M. Kasyoka.

,, I. Maina.

,, Mota Singh.

,, Mrs. E. M. Rayner.

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The Officer i/c Nairobi Extra Provincial District, Mr. R. A. Wilkinson.

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## INTRODUCTION

As in previous years, progress in the Department was still maintained, although towards the end of the year there were grounds for considerable misgiving for the future. These arose when the estimates for 1959 were considered, and it was evident that stringent restrictions were to be placed upon the Government's grant for public health purposes.

While, as has been stated, the Department functioned satisfactorily in its various branches, it was quite evident that expansion in its responsibilities continued and pressures were building up in essential services which could not be indefinitely held with reasonable efficiency without an increase of staff.

Taking the picture generally, malaria was held at a low level, the attack rate of 5.54 per 10,000 people being an improvement on the five previous years. It is a long time now since we had a serious outbreak, but it must once again be emphasised that it would be unwise for control measures to be abandoned because there is no radical change in the background since the last epidemic, save the greater size of the city. In any case, far more complaints were received of nuisance from culicines than anophelines, and much inconvenience would be suffered if the former were allowed to go unchecked.

The total cases of poliomyelitis (44) is only a third of last year. It will be very interesting to see what will be the impact of our steady campaign of poliomyelitis inoculations (6,025 were done in 1958). So far, there have only been two cases of suspected "break through", and both these cases, which were not serologically proved, were so mild as to leave considerable doubt as to their genuineness.

It is interesting, too, to note that bacillary dysentery is showing a steady decline, with 205 cases notified as against 562 in 1954. It might reasonably be felt that this was an indication of our nearly completed campaign to bring all restaurants in the city up to a very high grade of cleanliness. Possibly also the high standard of milk production and distribution which now obtains has played a part.

As regards tuberculosis, the number of cases notified was about the average of the previous five years, but this picture will almost certainly alter in the future.

In June, the Chest Clinic was opened and the work of diagnosing and treating tuberculosis started on a big scale. This innovation was the outcome of long negotiation between the City Council, Government, W.H.O. and U.N.I.C.E.F., and marks a very great step forward.

Readers of this report may recall what was written in the Annual Report of this Department for 1947 which stated: "Tuberculosis is a disease which is rapidly assuming a firstclass importance in the city". This theme has continued through the years.

It is most gratifying to know that we are now embarked upon a scheme which should bring this disease under control, to the saving of many lives and much industrial impairment.

The operations of the tuberculosis teams are not confined to the city, the campaign in fact being a national one. This is important, since it would be ineffective otherwise, owing to the constant movement of population in and out of the city. Indeed, we have good reason to be proud of this move, which has been initiated on a scale probably greater than anywhere else in Africa.

Another new feature of our progress was the opening in April of our chain of "Health Centres". These again were the result of long negotiation with Government and were designed in the first instance to cope with the vast volume of African ambulant sick which had for years placed an impossible burden upon the single Government Dispensary.

These units, of which there are four, were specially designed to enable large numbers of sick to be dealt with, with the maximum despatch, and their popularity became manifest almost immediately. One especial aspect was kept in mind, and that was that effort should be made to bring the loss of time to commerce and industry owing to sickness to a minimum, this to be achieved by effective treatment and control.

The name "Health Centres" was consciously substituted for "Dispensary", the idea being that not only would the sick be treated, but the opportunity would be taken to inculcate ideas of prevention and avoidance of sickness into the minds of those attending, and close liaison with the Labour Department is anticipated from the point of view of accident prevention in industry.

Yet another move forward took place during the year when funds were made available and designs prepared for the establishment of a crematorium. Towards the end of the year this project was progressing well, and it seems extremely likely that it will come to maturity in 1959, thus bringing the city yet further into line in its amenities in comparison with others in this continent.

Two other not unimportant achievements gave cause for satisfaction. One was the putting through of the City Council of Nairobi (Food Shops and Stores) By-laws, 1958. This occurred in June and will materially improve our powers for the regulation of food handling, where there is still much room for improvement. Its usefulness, however, will be influenced by the availability to us of adequate staff for enforcement. The other was the completion of the health education film "Planned Parenthood is Happy Parenthood". This is a fifteen minute colour film with English commentary; it is also available with Swahili taped commentary. It is planned that the film shall have a wide circulation not only in the city, but with the consent of Government, in other parts of the Territories.

Virus influenza again made itself felt during the year, and it was pleasing to meet Dr. Payne of the W.H.O. Virus Research Organisation and to discuss the possibility of setting up a research centre in Nairobi for the long overdue investigation into this little known group of diseases.

A new development took place at the Lady Grigg African Maternity Hospital. With the advent of a Specialist Medical Officer as Superintendent in August, new work was started to reduce the death rate of premature babies which this officer regarded as unduly high. Thanks to a great deal of hard work, the death rate fell from an average of 30% to under 10%, and this compares favourably with any other maternity hospital in Africa.

One final point. Death certification is a matter which causes grave concern, and it is felt that control over certification and the subsequent burial of the dead is not adequate.

Examples of inadequate certification which have been received during the past year are:—

- “stomach trouble”;
- “heart failure”; and
- “kidney trouble”.

In all instances these were accepted (but not by this Department) as adequate certification.

The answer to this is for the Medical Officer of Health to become the Registrar of Deaths and for burial permits to be issued only with his authority. Much stricter control may then be possible.

During the coming year, more thought will have to be given to this subject, particularly in view of the possibility of a crematorium being built and cremation for all races becoming available.

Closely associated with this whole subject is the question of inquests. We have, for a long time, felt that this matter needs some attention, in fact a thorough overhaul, both from the point of view of public security and accurate records of causes of death.

At present, cremation amongst certain communities can be carried out on only one death certificate, whereas in England two are essential, and the matter of issue of burial permits by the Police needs reconsideration.

It is once again my pleasant duty to express my warmest appreciation of the co-operation I have received from members of Council, Public Health Committee, the Director of Medical Services and a loyal and efficient staff.

**M E T E O R O L O G Y****Some Figures of Nairobi Rainfall 1897-1958**

*Readings taken at M.O.W.*

Average yearly rainfall 1897—1900 .. .. .. ..	35.10	inches.
Average yearly rainfall 1901—1925 .. .. .. ..	37.81	inches.
Average yearly rainfall 1926—1950 .. .. .. ..	32.33	inches.
Total rainfall for 1951 .. ..	60.08	inches.
Total rainfall for 1952 .. ..	26.09	inches.
Total rainfall for 1953 .. ..	21.36	inches.
Total rainfall for 1954 .. ..	24.18	inches.
Total rainfall for 1955 .. ..	32.25	inches.
Total rainfall for 1956 .. ..	27.60	inches.
Total rainfall for 1957 .. ..	49.27	inches.
Total rainfall for 1958 .. ..	45.85	inches.

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*Average Yearly Rainfall 10-year Periods*

1901 to 1910 .. ..	37.16	inches.
1911 to 1920 .. ..	40.71	inches.
1921 to 1930 .. ..	34.90	inches.
1931 to 1940 .. ..	31.98	inches.
1941 to 1950 .. ..	30.60	inches.
1951 to 1958 .. ..	36.27	inches.

**A NOTE ON THE  
CLIMATE OF NAIROBI CITY**

The City of Nairobi is about 5,500 feet high, rather more than 300 miles from the coast, and about 100 miles south of the equator. It is flanked by high ground on the north and west, and by extensive plains to the south and east. The modifying effect of the topography on an otherwise tropical climate is considerable.

The climate displays only relatively minor seasonal variations, but Nairobi's position so far inland results in a large diurnal variation, particularly in temperature and humidity, while its height causes it to be some 13°F. cooler than the coast. The result is a climate which does not have the enervating effect generally associated with the tropics.

The hottest months are February and March, and during this period afternoon temperatures rise to 85°F. or more, and very occasionally to nearly 90°F., a figure which has never yet been exceeded. The period June to August is invariably one of comparative low day and night temperatures. The average maximum temperature for June is about 72°F.; night-time temperatures are generally about 54°F., giving a mean range of 18°F. The lowest minimum recorded is 44°F. during an August night in 1933, but temperatures much nearer freezing point have been experienced in neighbouring valley situations from time to time.

Relative humidity has a very marked daily range. In the early morning it frequently reaches saturation and may fall to 10% in the middle of the day on clear sunny days in February or March.

Cloud is least during the period December-March when skies are about half covered in the mornings and less than half covered in the afternoons. From April onwards cloud amount increases until in August at the height of the S.E. monsoons the sky may be quite overcast all morning, the cloud only breaking in the afternoon. As cloud usually decreases after midday, there is about 30% more sunshine in the afternoon than in the morning, and it follows that westerly slopes receive more sunshine than easterly. The following figures for mean hours of sunshine per day illustrate this point very clearly:—

	Hrs.		Hrs.		Hrs.
January	9.8	May	6.2	September	5.7
February	9.8	June	4.7	October	7.4
March	8.5	July	4.0	November	8.4
April	7.2	August	4.1	December	7.1

The significance of these figures is better appreciated when it is remembered that the sun is above the horizon for about twelve hours per day throughout the year.

The figures for average rainfall given in the table on page 13 show a distribution with two peaks, one in March—June (the “long rains”), and the other in October—December (the “short rains”). Late December and mid-March is popularly supposed to be the dry season, but there is an appreciable expectancy of rain in this period, a rather greater expectancy in fact than in the cool, dry but cloudy mid-year period. Rainfall is mainly, although not entirely, in the form of afternoon and evening showers, associated at times with thunderstorms. During the months June to September the S.E. monsoon may bring a dense cap from which light rain sometimes falls for several hours, mainly during the early morning. Very heavy rain of the tropical deluge type occurs infrequently; when it does it is invariably associated with the more violent type of thunderstorm. In 1951, a very wet year, falls of as much as 5" in 3 hours were experienced in the Nairobi area during the “long rains”. This is, however, exceptional, falls exceeding 2" in 24 hours being infrequent.

As is general in East Africa, rainfall means can be very misleading. Since several years of short rainfall may follow one another, means have to be interpreted with some circumspection. Some indication of the range of variation is given by the following extreme falls:—

Highest fall recorded in Nairobi 61.80" in 1930.

Lowest fall recorded in Nairobi 19.13" in 1943.

It is apposite to note at this juncture that the mean annual evaporation from a free water surface in Nairobi is some 36", i.e. a figure comparable with the mean rainfall.

High winds are not common in Nairobi, but during February and March moderately strong east or north-easterly winds prevail, which, combined with very low humidities and high temperatures, makes the few weeks before the rains the most trying of the year.

**SOME METEOROLOGICAL DETAILS — NAIROBI AIRPORT 1958**  
**(From the E.A. Meteorological Department)**

	1958	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TEMPERATURE (F) ..	Mean Minimum	79.5	80.6	82.3	80.4	76.6	74.0	70.8	74.8	80.7	81.3	80.3	78.2
RAINFALL (inches) ..	Mean	57.5	56.6	57.3	57.4	57.5	54.7	53.6	52.2	52.5	54.9	55.5	55.7
DAYS OF RAIN ..	Mean	68.5	68.6	69.8	68.9	67.1	64.4	62.2	63.5	66.6	68.1	67.9	66.9
AVERAGE RAINFALL OVER 15 YEARS ..	2.71	10.10	1.91	4.20	7.91	2.61	2.29	0.00	1.06	0.19	1.09	3.41	
RELATIVE HUMIDITY % (E.A.S.T.) ..	1.70	1.13	3.07	7.15	4.24	1.54	0.56	0.81	1.25	1.98	4.61	2.76	
MEAN ATMOSPHERIC PRESSURE (mbs) ..	(0900)	78	71	90	90	87	91	91	81	81	75	74	90
	(1500)	44	42	48	55	62	62	64	53	42	39	47	54

## VITAL STATISTICS

### GENERAL

Area of City .. .. ..	20,480 acres or 32 sq. miles
Population (estimate) .. .. ..	221,700
Population density per acre .. .. ..	10.82

### SUMMARY OF VITAL STATISTICS

	Estimated Population	Deaths	Death rate per 1,000	Live births	Birth rate per 1,000	Infant deaths	Infant mortality rate	Live and still births	Maternal deaths	Death rate per 1000 births
Europeans ..	22,200	111	5.0	536	24.1	17	31.7	543	1	1.844
Asians ..	84,500	396	4.68	4,034	47.7	157	38.9	4,120	6	1.45
Africans ..	115,000	963	8.38	3,717	32.3	334	89.8	3,836	5	1.30
TOTALS ..	221,700	1,470	6.63	8,287	37.3	508	61.3	8,499	12	1.41

### Summary of Principal Causes of Death

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(Figures in brackets = total deaths)

#### Europeans (111)

#### Asians (396)

#### Africans (963)

Circulatory	32 = 28.8%	Under 1 year	85 = 21.4%	Respiratory	218 = 22.6%
Cancer	24 = 21.6%	Circulatory	64 = 16.16%	Digestive	136 = 14.1%
Under 1 year	14 = 12.6%	Respiratory	54 = 13.64%	Under 1 year	129 = 13.3%
Violence	11 = 9.9%	Digestive	42 = 10.6%	Infections	128 = 13.3%

Table 1

### Population Figures 1954 to 1958

(Estimates by East African Statistical Department)

		1954	1955	1956	1957	1958
Europeans ..	..	17,500	18,500	20,000	22,200	22,200
Asians ..	..	63,000	67,000	70,000	84,500	84,500
Africans ..	..	100,000	110,000	120,000	115,000	115,000
		180,500	195,500	210,000	221,700	221,700

Table 2

**Births Notified in 1958**

									Live Births	Still Births
Europeans ..	..	..	..	..	..	..	..	..	536	7
Asians ..	..	..	..	..	..	..	..	..	4,034	86
Africans ..	..	..	..	..	..	..	..	..	3,717	119
									8,287	212

Table 3

**Births Rates for Past Five Years**

		1954	1955	1956	1957	1958
Europeans ..	..	20.9	21.4	23	21.76	24.1
Asians ..	..	51.9	50.8	55.4	46.80	47.7
Africans ..	..	16.5	23.6	25.6	28.57	32.3

Table 4

**Infant Mortality Rates for Past Five Years**

		1954	1955	1956	1957	1958
Europeans ..	..	38	18	19.9	28.57	31.7
Asians ..	..	50	48	46.7	46.02	38.9
Africans ..	..	187	111	130.5	98.29	89.8

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Table 5

**Death Rates over Past Five Years**

		1954	1955	1956	1957	1958
Europeans ..	..	6.45	6.0	5.9	5.27	5.0
Asians ..	..	6.61	5.52	5.93	5.67	4.68
Africans ..	..	13.63	11.03	9.3	8.7	8.38
Totals ..	..	10.48	8.63	7.86	7.2	6.63

Table 6

**Maternal Deaths and Maternal Mortality Rates 1958**

		Live and Still Births	Maternal Deaths	Rate/1,000 Births
Europeans ..	..	543	1	1.84
Asians ..	..	4,120	6	1.45
Africans ..	..	3,836	5	1.30
Totals ..	..	8,499	12	1.41

COMPARATIVE VITAL STATISTICS 1947 - 1958

	Infant Mortality Rates										Resident Deaths						Death Rate			Maternal Mortality Rates
	Live Resident Births	Asian	African	European	Asian	African	European	Asian	African	European	Asian	African	European	All Races	European	Asian	African			
1947	236	1,668	1,346	63.56	98.33	224.37	95	343	906	7.04	9.03	11.76	10.46	—	4. 0	2. 8				
1948	226	2,250	1,554	75	67	187	108	340	807	10. 0	8. 2	12. 2	10.59	3. 6	1. 3	4. 9				
1949	326	2,656	1,703	25	57	168	118	332	922	9. 8	6. 6	13. 8	10. 7	3. 0	—	2. 8				
1950	286	2,891	1,794	38. 5	57. 7	169. 5	124	360	982	8. 6	7. 0	14. 0	10. 7	6. 9	1. 0	1. 0				
1951	304	3,117	1,979	52	52	180	148	437	1,350	9. 9	8. 0	16. 8	12. 9	—	2.19	3. 4				
1952	326	3,416	1,711	24	56	299	114	442	1,453	7. 3	7. 9	15. 3	12. 0	3. 3	2. 5	2. 2				
1953	295	3,278	1,614	20	49	281	111	376	1,760	6. 9	6. 2	17. 6	12. 8	—	0. 6	4. 0				
1954	366	3,274	1,650	32. 8	50. 4	187. 8	113	417	1,363	6. 4	6. 6	13. 6	10. 5	2. 7	2. 1	5. 0				
1955	387	3,462	2,517	18	48	111	111	381	1,214	6. 0	5.52	11. 0	8. 6	2. 5	2. 3	2. 0				
1956	452	3,806	2,935	19. 9	46. 7	130. 5	118	415	1,117	5. 9	5.93	9. 3	7.85	4. 4	0.53	2. 7				
1957	483	3,995	3,286	28.57	46.02	98.29	117	480	1,004	5.27	5.67	8. 7	7. 2	—	1.23	1.16				
1958	536	4,034	3,717	31.7	38.9	89. 8	111	396	963	5. 0	4.68	8.38	6.63	1.84	1.45	1. 3				

## Summary of the Causes of Deaths.

	Europeans	Asians	Africans	Totals	Percentage of all deaths in 1958.	Percentage of all deaths in 1957.	Death Rate 1958.	Death Rate 1957.
1. Infectious and Parasitic Diseases. . . . .	—	10	128	138	9.5%	12.18%	0.62	0.87
2. Cancer and other Tumours	24	17	38	79	5.37%	3.31%	0.35	0.23
3. Rheumatism, Diseases of.. Nutrition, etc. . . . .	—	14	15	29	1.98%	2.18%	0.13	0.15
4. Diseases of the Blood etc...	1	7	27	35	2.38%	2.74%	0.15	0.19
5. Chronic Poisoning and Intoxications. . . . .	1	—	5	6	0.4%	0.18%	0.02	0.01
6. Diseases of the Nervous System . . . . .	8	28	44	80	5.4%	5.93%	0.35	0.42
7. Diseases of the Circulatory System . . . . .	32	64	28	124	8.4%	7.55%	0.55	0.54
8. Diseases of the Respiratory System . . . . .	6	54	218	278	19.04%	22.36%	1.25	1.61
9. Diseases of the Digestive System . . . . .	5	42	136	183	13.1%	10.8%	0.82	0.8
10. Diseases of the Genito-Urinary System (non-venereal) . . . . .	1	8	22	31	2.1%	2.56%	0.13	0.18
11. Diseases of Pregnancy, Childbirth, etc. . . . .	1	6	5	12	0.8%	0.56%	0.05	0.04
12. Diseases of the Skin. . . . .	—	1	—	1	0.06%	0.12%	0.004	0.009
13. Diseases of Bones and Joints . . . . .	—	—	3	3	0.2%	—	0.01	—
14. Congenital Malformations	2	10	17	29	1.9%	1.85%	0.13	0.13
18. Diseases peculiar to the First Year of Life ..	14	85	129	228	15.5%	15.49%	1.02	1.11
16. Senility, old age .. . . .	5	10	8	23	1.56%	1.12%	0.1	0.08
18. Death from Violence .. . . .	11	37	103	151	10.28%	7.56%	0.68	0.54
18. Ill-defined Causes .. . . .	—	3	37	40	2.8%	3.43%	0.18	0.24
<b>TOTAL OF ALL DEATHS</b>	<b>111</b>	<b>396</b>	<b>963</b>	<b>1470</b>			<b>6.61</b>	<b>7.22</b>

## Causes of Infant Deaths.

*Under one month*

### International

	List No.	Cause	Europeans	Asians	Africans	Total
12.	Tetanus neonatorum	.. ..	—	—	3	3
83.	Intra cranial haemorrhage	.. ..	—	—	1	1
83.	Cerebral haemorrhage	.. ..	—	—	2	2
86.	Convulsions	.. ..	—	1	—	1
106.	Tracheo-bronchitis	.. ..	—	—	2	2
107.	Broncho-pneumonia	.. ..	—	13	20	33
108.	Bilateral pneumonia	.. ..	—	—	2	2
109.	Congestion of lung	.. ..	—	1	—	1
119.	Diarrhoea	.. ..	—	1	—	1
119.	Gastro-enteritis	.. ..	1	3	5	9
119.	Jejunitis	.. ..	—	—	1	1
122.	Paralytic ileus	.. ..	—	1	—	1
122.	Adhesion of intestine	.. ..	—	—	1	1
123.	Renal haemorrhage	.. ..	—	—	1	1
144.	Toxaemia of pregnancy	.. ..	—	1	—	1
149.	Caesarian birth	.. ..	—	1	—	1
149.	Precipitate labour	.. ..	—	1	—	1
157.	Congenital cystic disease of kidney	.. ..	—	—	1	1
157.	Hydrocephalus	.. ..	—	—	3	3
157.	Congenital heart disease	.. ..	—	1	3	4
157.	Congenital malformation	.. ..	1	3	1	5
157.	Congenital obstruction	.. ..	—	1	—	1
157.	Haemolytic disease of newborn	.. ..	—	—	1	1
157.	Lympho-meningocele	.. ..	—	—	1	1
157.	Tracheo-oesophageal fistula	.. ..	—	1	—	1
158.	Malnutrition	.. ..	—	—	4	4
158.	Marasmus	.. ..	—	1	—	1
158.	Debility	.. ..	—	1	—	1
159.	Prematurity	.. ..	13	57	85	155
160.	Compression of skull	.. ..	—	—	1	1
160.	Obstructed breech	.. ..	—	—	1	1
160.	Placenta prævia	.. ..	—	1	—	1
160.	Cerebral compression	.. ..	—	1	—	1
160.	Intra-cranial haemorrhage	.. ..	—	1	2	3
160.	Birth injury	.. ..	—	5	13	18
160.	Difficult labour	.. ..	—	1	3	4
161.	Hæmorrhage from cord	.. ..	—	—	1	1
161.	Jaundice	.. ..	—	1	—	1
161.	Atelectasis	.. ..	—	3	6	9
161.	Hæmorrhagic disease of newborn	.. ..	—	3	—	3
161.	Traumatic asphyxia	.. ..	—	—	1	1
161.	Asphyxia	.. ..	—	7	2	9
161.	Cerebral hæmorrhage of newborn	.. ..	1	—	—	1
200.	Unknown	.. ..	—	—	1	1

## Causes of Infant Deaths.

*From one month to one year*

International List No.	Cause	Europeans	Asians	Africans	Total
9.	Pertussis .. .. ..	—	—	5	5
12.	Tetanus .. .. ..	—	1	—	1
14.	Tuberculous meningitis .. .. ..	—	—	1	1
27.	Dysentery .. .. ..	—	—	1	1
28.	Malaria .. .. ..	—	—	5	5
30.	Congenital syphilis .. .. ..	—	—	1	1
33.	Influenzal meningitis .. .. ..	—	—	1	1
35.	Measles .. .. ..	—	—	1	1
73.	Anæmia .. .. ..	—	1	6	7
80.	Encephalitis .. .. ..	—	—	1	1
81.	Meningitis .. .. ..	—	1	1	2
81.	Pneumococcal meningitis .. .. ..	—	—	1	1
86.	Convulsions .. .. ..	—	1	—	1
89.	Otitis media .. .. ..	—	—	1	1
105.	Laryngeal stridor .. .. ..	—	—	1	1
106.	Acute laryngo-tracheitis .. .. ..	—	—	1	1
106.	Tracheo-bronchitis .. .. ..	—	1	—	1
107.	Broncho-pneumonia .. .. ..	—	18	63	81
107.	Secondary pneumonia .. .. ..	—	1	—	1
108.	Bilateral pneumonia .. .. ..	—	—	4	4
111.	Pulmonary œdema .. .. ..	—	—	1	1
119.	Enteritis .. .. ..	—	—	3	3
119.	Diarrhoea .. .. ..	—	8	5	13
119.	Gastro-enteritis .. .. ..	—	8	43	51
122.	Intestinal obstruction .. .. ..	—	—	1	1
122.	Paralytic ileus .. .. ..	—	1	—	1
129.	Peritonitis .. .. ..	—	—	1	1
130.	Uræmia .. .. ..	—	1	—	1
154.	Osteomyelitis .. .. ..	—	—	1	1
157.	Hydrocephalus .. .. ..	—	1	2	3
157.	Hirschsprung's disease .. .. ..	—	—	1	1
157.	Amyotonia congenita .. .. ..	1	—	—	1
158.	General debility .. .. ..	—	1	—	1
158.	Malnutrition .. .. ..	—	—	7	7
158.	Marasmus .. .. ..	—	1	—	1
159.	Prematurity .. .. ..	—	1	2	3
161.	Atelectasis .. .. ..	—	—	1	1
182.	Accidental suffocation .. .. ..	—	—	1	1
182.	Asphyxia (accidental) .. .. ..	—	—	1	1
200.	Shock .. .. ..	—	—	1	1
200.	Unknown .. .. ..	—	—	1	1
		1	46	166	213

## Causes of Deaths

(Corrected for Outward Transfer)

International Classification

### **Group I.** **Infectious and Parasitic Diseases.**

International List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid .. .. ..	—	—	4	4
6.	Cerebro-spinal meningitis ..	—	2	3	5
9.	Pertussis .. .. ..	—	—	8	8
10.	Diphtheria .. .. ..	—	1	2	3
12.	Tetanus .. .. ..	—	1	3	4
12.	Tetanus neonatorum .. ..	—	—	3	3
13.	Pulmonary tuberculosis .. ..	—	2	27	29
13.	Empyema right chest .. ..	—	—	1	1
13.	Hæmoptysis .. .. ..	—	—	1	1
14.	Tuberculous meningitis .. ..	—	1	6	7
16.	Tuberculous spine .. ..	—	—	2	2
22.	Miliary tuberculosis .. ..	—	—	5	5
24.	Septicæmia .. .. ..	—	—	2	2
24.	Pyogenic infection .. ..	—	—	1	1
27.	Bacillary dysentery .. ..	—	—	7	7
27.	Amœbic dysentery .. ..	—	—	1	1
27.	Chronic dysentery .. ..	—	—	1	1
27.	Shigella .. .. ..	—	—	1	1
27.	Salmonellosis .. .. ..	—	—	1	1
27.	Dysentery .. .. ..	—	—	3	3
28.	Blackwater Fever .. ..	—	—	1	1
28.	Cerebral malaria .. ..	—	—	4	4
28.	Malaria .. .. ..	—	1	19	20
30.	Congenital syphilis .. ..	—	—	1	1
30.	Syphilis .. .. ..	—	—	3	3
30.	Abdominal aneurysm .. ..	—	—	1	1
30.	Rupture of aorta .. ..	—	—	1	1
30.	Aortic aneurysm .. ..	—	—	2	2
33.	Influenzal meningitis .. ..	—	—	3	3
35.	Measles .. .. ..	—	—	5	5
36.	Poliomyelitis .. .. ..	—	—	2	2
37.	Virus encephalitis .. ..	—	—	1	1
37.	Parkinsonism .. .. ..	—	1	—	1
38.	Yellow atrophy of liver .. ..	—	—	1	1
42.	Bilharzia .. .. ..	—	—	1	1
42.	Schistosomiasis .. .. ..	—	—	1	1
44.	Hodgkins disease .. ..	—	1	—	1
		—	10	128	138

## Group II.

### Cancer and other Tumours.

International

List No.

	Cause	Europeans	Asians	Africans	Total
45.	Sarcoma of jaw ..	..	—	—	1
45.	Sarcoma of face ..	..	—	—	1
45.	Carcinoma of tongue ..	..	1	—	2
46.	Carcinoma of liver ..	..	—	1	1
46.	Cancer of stomach ..	..	2	1	2
46.	Carcinoma of colon ..	..	1	—	1
46.	Carcinoma of pancreas ..	..	4	—	7
46.	Carcinoma of rectum ..	..	1	1	2
46.	Cancer of oesophagus ..	..	—	—	3
46.	Sarcoma of abdomen ..	..	1	—	1
46.	Primary carcinoma of liver ..	..	—	—	2
46.	Retro-peritoneal tumour ..	..	—	—	1
47.	Carcinoma of bronchus ..	..	1	1	2
47.	Carcinoma of lung ..	..	1	3	—
48.	Carcinoma of cervix ..	..	—	—	2
48.	Carcinoma of uterus ..	..	—	—	1
49.	Carcinoma of ovary ..	..	1	1	—
50.	Carcinoma of breast ..	..	2	3	7
52.	Carcinoma of kidney ..	..	1	1	2
52.	Hypernephroma ..	..	—	—	1
52.	Carcinoma of bladder ..	..	—	1	—
53.	Melanotic skin disease ..	..	1	—	1
54.	Retroperitoneal sarcoma ..	..	—	—	2
54.	Pontine tumour ..	..	—	—	1
54.	Fibro sarcoma ..	..	—	—	1
55.	Lympho sarcoma ..	..	—	—	3
55.	Carcinomatosis ..	..	6	1	1
56.	Cerebral tumour ..	..	1	1	—
56.	Tumour of thyroid ..	..	—	1	—
56.	Intra-cranial tumour ..	..	—	1	—
56.	Reticulosis ..	..	—	—	2
57.	Hepatoma ..	..	—	—	1
57.	Inoperable tumour ..	..	—	—	1

24

17

38

79

### Group III.

### Rheumatism, Diseases of Nutrition and of the Endocrine Glands and Vitamin Deficiency Diseases, General Diseases.

International List No.	Cause	Europeans	Asians	Africans	Total
58.	Rheumatic fever ..	..	—	1	—
58.	Rehumatic carditis	..	—	1	1
58.	Rheumatic mitral disease	..	—	1	1
61.	Diabetes mellitus..	..	—	8	4
61.	Diabetic coma ..	..	—	2	—
65.	Addison's disease	..	—	1	—
69.	Kwashiokor	..	—	—	9
		—	14	15	29

### Group IV.

### Diseases of the Blood and Blood-forming Organs.

International List No.	Cause	Europeans	Asians	Africans	Total
22	73. Sickle-cell anaemia	..	—	—	2
	73. Anæmia ..	..	—	6	21
	73. Aplastic anæmia ..	..	1	—	1
	73. Cooley's anæmia	..	—	1	—
	73. Chronic anæmia ..	..	—	—	1
	74. Leukæmia..	..	—	—	2
		—	—	27	35

### Group V.

### Chronic Poisoning and Intoxication.

International List No.	Cause	Europeans	Asians	Africans	Total
77.	Alcoholic intoxication	..	—	4	4
78.	Encephalopathy ..	..	1	—	1
79.	Alcohol	..	—	1	1
		—	—	5	6

## Group VI.

### Diseases of the Nervous System.

International List No.	Cause	Europeans	Asians	Africans	Total
80. Encephalitis	.. ..	—	2	6	8
81. Meningitis	.. ..	—	2	14	16
81. Meningitis (pneumococcal)	.. ..	—	—	3	3
82. Transverse myelitis	.. ..	1	—	—	1
83. Congestive seizure	.. ..	1	7	5	13
83. Paraplegia	.. ..	—	1	1	2
83. Subdural haemorrhage	.. ..	—	—	1	1
83. Hemiplegia (right sided)	.. ..	—	1	—	1
83. Pontine haemorrhage	.. ..	—	—	1	1
83. Cerebral haemorrhage	.. ..	2	2	5	9
83. Cerebral thrombosis	.. ..	2	6	—	8
83. Hemiplegia	.. ..	1	—	—	1
83. Cerebral apoplexy	.. ..	—	1	—	1
83. Intra-cranial haemorrhage	.. ..	—	—	3	3
83. Arteriosclerosis	.. ..	1	1	—	2
84. Melancholia	.. ..	—	—	1	1
84. Manic exhaustive psychosis	.. ..	—	1	—	1
84. Mental confusion	.. ..	—	1	—	1
85. Status epilepticus	.. ..	—	—	2	2
86. Convulsions	.. ..	—	2	—	2
87. Huntington's chorea	.. ..	—	1	—	1
89. Otitis media	.. ..	—	—	2	2
		8	28	44	80

## Group VII.

### Diseases of the Circulatory System.

International List No.	Cause	Europeans	Asians	Africans	Total
90.	Pericarditis .. .. ..	1	—	2	3
92.	Aortic incompetence .. .. —	—	—	4	4
92.	Mitral stenosis .. .. —	—	—	5	5
93.	Cardio vascular degeneration .. —	—	—	1	1
93.	Myocarditis .. .. 2	4	—	—	6
93.	Ruptured heart .. .. —	—	—	1	1
93.	Myocardial infarction .. .. 1	9	—	—	10
94.	Coronary arteriosclerosis .. .. 1	—	—	—	1
94.	Coronary thrombosis .. .. 16	35	4	—	55
94.	Coronary atheroma .. .. 1	—	—	—	1
95.	Rheumatic heart .. .. —	3	1	—	4
95.	Auricular fibrillation .. .. —	—	1	—	1
96.	Embolic aneurysm .. .. 1	—	—	—	1
97.	Atheroma .. .. —	—	—	1	1
97.	Arteriosclerosis .. .. 5	3	1	—	9
98.	Gangrene of gout .. .. —	—	—	1	1
100.	Thrombosis (venous) .. .. —	2	—	—	2
100.	Rupture of œsophageal varicose veins .. .. —	—	—	1	1
102.	Hypertension .. .. 4	7	3	—	14
103.	Abdominal haemorrhage .. —	—	—	1	1
103.	Internal haemorrhage .. .. —	—	—	1	1
103.	Rupture of aorta .. .. —	—	—	1	1
		32	64	28	124

## Group VIII.

### Diseases of the Respiratory System.

International

List No.	Cause	Europeans	Asians	Africans	Total
105.	Laryngeal stridor .. ..	—	—	1	1
105.	Acute respiratory obstruction ..	—	1	—	1
106.	Tracheo-bronchitis .. ..	—	1	2	3
106.	Bronchiectasis .. ..	1	—	—	1
106.	Acute laryngo-tracheitis ..	—	—	1	1
107.	Secondary pneumonia .. ..	—	1	—	1
107.	Broncho-pneumonia .. ..	1	35	114	150
108.	Lobar pneumonia .. ..	—	9	66	75
108.	Bilateral pneumonia .. ..	—	1	14	15
109.	Congestion of lung .. ..	—	1	—	1
110.	Pleurisy .. ..	—	—	2	2
110.	Chronic empyema .. ..	—	—	1	1
111.	Pulmonary embolism .. ..	—	2	2	4
111.	Pulmonary œdema .. ..	1	—	5	6
111.	Hypostatic pneumonia .. ..	—	1	—	1
111.	Acute œdema of lungs .. ..	—	—	1	1
112.	Status asthmaticus .. ..	—	1	—	1
112.	Bronchial asthma .. ..	—	1	1	2
112.	Asthma .. ..	1	—	1	2
113.	Emphysema .. ..	2	—	—	2
113.	Chronic emphysema .. ..	—	—	1	1
114.	Atelectasis .. ..	—	—	4	4
114.	Spontaneous pneumothorax .. ..	—	—	1	1
114.	Lung abscess .. ..	—	—	1	1
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		6	54	218	278

## Group IX.

### Diseases of the Digestive System.

International

List No.	Cause	Europeans	Asians	Africans	Total
115.	Suppurative tonsillitis ..	—	1	—	1
116.	Stricture-oesophagus ..	—	1	—	1
119.	Enteritis (under 2) ..	—	—	4	4
119.	Gastro-enteritis (under 2) ..	1	15	69	85
119.	Diarrhoea (under 2) ..	—	11	10	21
119.	Jejunitis ..	—	—	1	1
120.	Ulcerative colitis ..	—	1	—	1
120.	Gastro-enteritis (over 2) ..	—	1	21	22
120.	Enteritis (over 2) ..	—	—	3	3
122.	Intestinal obstruction ..	—	—	5	5
122.	Volvulus ..	1	—	—	1
122.	Paralytic ileus ..	1	2	1	4
122.	Strangulated hernia ..	1	1	—	2
122.	Adhesion of intestine ..	—	—	1	1
122.	Acute intestinal obstruction ..	—	1	—	1
123.	Renal haemorrhage ..	—	—	1	1
124.	Cirrhosis of liver ..	—	5	6	11
125.	Hepato-renal failure ..	—	—	1	1
125.	Amoebic abscess of liver ..	—	—	1	1
125.	Acute necrosis ..	—	—	1	1
125.	Fatty necrosis of liver ..	—	—	1	1
125.	Hepatoma ..	—	—	1	1
125.	Liver abscess ..	—	—	1	1
127.	Cholecystitis ..	—	2	—	2
127.	Cholangitis ..	1	—	—	1
129.	Peritonitis ..	—	1	8	9
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5      42      136      183					

## **Group X.**

### **Diseases of the Urinary and Genital System (Non Venereal).**

International

List No.	Cause	Europeans	Asians	Africans	Total
130.	Uræmia .. .. ..	1	3	6	10
130.	Renal disease .. ..	—	—	2	2
130.	Sub-acute nephritis .. ..	—	—	1	1
131.	Chronic nephritis .. ..	—	2	2	4
131.	Renal failure .. ..	—	—	1	1
132.	Nephritis .. .. ..	—	1	2	3
133.	Pyo nephrosis .. ..	—	—	1	1
133.	Bilateral pyelonephritis .. ..	—	—	1	1
133.	Nephrectomy .. .. ..	—	1	—	1
133.	Anuria .. .. ..	—	—	1	1
135.	Cystitis .. .. ..	—	—	1	1
137.	Prostatic Hypertrophy .. ..	—	—	2	2
139.	Hysterectomy .. ..	—	1	—	1
139.	Ruptured uterus .. ..	—	—	1	1
139.	Pelvic peritonitis .. ..	—	—	1	1
		1	8	22	31

## **Group XI.**

### **Diseases of Pregnancy, Child Birth and the Puerperal State.**

27

International

List No.	Cause	Europeans	Asians	Africans	Total
140.	Septic abortion .. ..	—	—	1	1
144.	Toxæmia of pregnancy .. ..	—	1	1	2
146.	Post partum haemorrhage .. ..	—	1	—	1
146.	Placenta prævia .. ..	1	1	1	3
149.	Cæsarian birth .. ..	—	1	—	1
149.	Obstructed labour .. ..	—	—	1	1
149.	Prolonged labour .. ..	—	—	1	1
149.	Precipitate labour .. ..	—	1	—	1
149.	Obstetric shock .. ..	—	1	—	1
		1	6	5	12

## **Group XII.**

### **Diseases of the Skin and Cellular Tissue.**

International

List No.	Cause	Europeans	Asians	Africans	Total
153.	Erythematosis .. ..	—	1	—	1
		—	1	—	1

## Group XIII.

### Diseases of the Bones and Organs of Movement.

International

List No.	Cause	Europeans	Asians	Africans	Total
154. Osteomyelitis	.. .. ..	—	—	2	2
156. Myopathy..	.. .. ..	—	—	1	1
		—	—	3	3

## Group XIV.

### Congenital Malformations.

International

List No.	Cause	Europeans	Asians	Africans	Total
157. Tracheo-oesophageal fistula	..	—	1	—	1
157. Congenital heart disease	..	—	2	4	6
157. Hydrocephalus .. ..	.. ..	—	1	6	7
157. Congenital obstruction ..	..	—	1	—	1
157. Congenital malformation	..	1	4	3	8
157. Hirschsprung's disease ..	..	—	—	1	1
157. Fibrocystic disease of pancreas..	—	—	1	—	1
157. Amyotonia congenita .. ..	.. ..	1	—	—	1
157. Haemolytic disease of newborn	—	—	—	1	1
157. Congenital cystic disease of kidneys .. .. ..	.. .. ..	—	—	1	1
157. Lympho-meningocele .. ..	.. ..	—	—	1	1
		2	10	17	29

28

## Group XV.

### Diseases Peculiar to the First Year of Life.

International

List No.	Cause	Europeans	Asians	Africans	Total
158. Malnutrition .. .. ..	—	—	—	11	11
158. Marasmus .. .. ..	—	—	2	—	2
158. Debility general .. .. ..	—	—	2	—	2
159. Prematurity .. .. ..	13	58	87	158	
160. Obstructed breech .. .. ..	—	—	—	1	1
160. Intracranial haemorrhage .. .. ..	—	—	1	2	3
160. Cerebral compression .. .. ..	—	—	1	—	1
160. Difficult labour .. .. ..	—	—	1	3	4
160. Birth injuries .. .. ..	—	—	5	13	18
140. Compression of skull .. .. ..	—	—	—	1	1
160. Placenta praevia .. .. ..	—	—	1	—	1
161. Cerebral haemorrhage of newborn	1	—	—	—	1
161. Haemorrhagic disease of newborn	—	—	3	—	3
161. Jaundice .. .. ..	—	—	1	—	1
161. Asphyxia .. .. ..	—	—	7	2	9
161. Traumatic asphyxia .. .. ..	—	—	—	1	1
161. Haemorrhage from cord .. .. ..	—	—	—	1	1
161. Atelectasis .. .. ..	—	—	3	7	10
		14	85	129	228

## Group XVI.

### Senility, Old Age.

International

List No.	Cause	Europeans	Asians	Africans	Total
162.	Senility .. .. ..	5	10	8	23
		5	10	8	23

## Group XVII.

### Deaths from Violence.

International

List No.	Cause	Europeans	Asians	Africans	Total
163.	Suicide (poisoning) .. ..	1	—	—	1
164.	Suicide (firearms) .. ..	2	—	—	2
164.	Suicide (drowning) .. ..	1	1	—	2
164.	Suicide (hanging) .. ..	—	—	5	5
164.	Suicide (railway) .. ..	—	—	1	1
166.	Homicide by firearms .. ..	—	—	1	1
167.	Homicide by stab wounds .. ..	—	2	3	5
168.	Murder .. .. ..	—	—	2	2
168.	Strangulation .. .. ..	—	—	1	1
168.	Asphyxia .. .. ..	—	—	1	1
169.	Railway accident .. ..	—	—	3	3
170.	Traffic accident .. ..	3	13	50	66
173.	Air accident .. ..	3	—	—	3
176.	Accident by machinery .. ..	—	—	1	1
177.	Food poisoning .. ..	—	—	1	1
178.	Acute poisoning .. ..	—	—	1	1
178.	Carbon monoxide poisoning .. ..	—	—	2	2
179.	Acute alcoholic poisoning .. ..	—	1	1	2
181.	Burns .. .. ..	—	10	7	17
182.	Asphyxia (inhalation of vomit) .. ..	—	—	2	2
182.	Suffocation by soil .. ..	—	—	1	1
182.	Accidental suffocation .. ..	—	—	2	2
182.	Asphyxia (foreign body in glottis) .. ..	—	—	1	1
182.	Asphyxia (accidental) .. ..	—	—	2	2
182.	Asphyxia by foreign body .. ..	—	1	—	1
183.	Accidental drowning .. ..	1	5	3	9
184.	Gunshot wounds (accidental) .. ..	—	1	—	1
189.	Starvation .. .. ..	—	—	1	1
193.	Electrocution .. .. ..	—	2	4	6
194.	Bee sting .. .. ..	—	—	2	2
195.	Fractured skull .. .. ..	—	—	2	2
195.	Blow on head .. .. ..	—	—	1	1
195.	Cerebral trauma .. .. ..	—	—	2	2
198.	Judicial hanging .. .. ..	—	1	—	1

## Group XVIII.

### III defined causes of Death.

International

List No.	Cause	Europeans	Asians	Africans	Total
199.	Sudden deaths .. .. ..	—	—	1	1
200.	Natural cause .. .. ..	—	—	1	1
200.	Asphyxia .. .. ..	—	—	3	3
200.	Malnutrition .. .. ..	—	1	16	17
200.	Unknown, ill defined .. .. ..	—	—	9	9
200.	Myocardial failure .. .. ..	—	—	1	1
200.	Respiratory failure .. .. ..	—	—	1	1
200.	Heart failure .. .. ..	—	—	3	3
200.	Shock .. .. ..	—	—	2	2
200.	Oedema .. .. ..	—	1	—	1
200.	Asthenia .. .. ..	—	1	—	1
		—	3	37	40

**NOTIFIABLE DISEASES.****Notifiable Diseases, by Races.**

Diseases	Europeans	Asians	Africans	Total 1958	Totals for previous yrs.				
					1958	1957	1956	1955	1954
Anthrax .. ..	—	—	1	1	6	9	11	6	—
Beri-beri .. ..	—	—	—	—	1	—	—	—	—
Blackwater Fever .. ..	—	—	2	2	—	—	—	2	2
Cerebro-spinal Fever .. ..	—	1	12	13	22	106	153	30	—
Chickenpox .. ..	35	6	7	48	39	164	106	70	—
Diphtheria .. ..	1	2	3	6	5	—	5	5	5
Dysentery, amoebic .. ..	—	—	8	8	18	27	18	31	—
Dysentery, bacillary .. ..	19	9	177	205	342	391	466	562	—
Encephalitis .. ..	—	1	2	3	3	2	4	5	5
Erysipelas .. ..	—	—	—	—	—	—	1	3	—
Infective hepatitis .. ..	12	—	6	18	32	33	21	18	—
Kala-azar .. ..	—	—	—	—	—	—	—	4	—
Leprosy .. ..	—	—	3	3	2	6	2	3	—
Malta Fever .. ..	—	—	2	2	3	5	6	5	5
Ophthalmia neonatorum .. ..	—	—	18	18	30	66	77	55	—
Para-typhoid .. ..	—	—	—	—	—	—	—	—	—
Poliomyelitis .. ..	7	19	18	44	115	7	19	116	—
Puerperal Fever .. ..	—	17	—	17	11	19	4	1	—
Relapsing Fever .. ..	—	—	—	—	—	—	—	1	—
Salmonellosis .. ..	—	—	12	12	8	9	9	31	—
Scarlet Fever .. ..	—	—	—	—	1	11	1	—	—
Smallpox .. ..	—	1	32	33	59	28	—	—	—
Tick typhus .. ..	1	1	—	2	5	15	18	9	—
Trypanosomiasis .. ..	—	—	1	1	—	—	4	1	—
Tuberculosis .. ..	2	25	327	354	344	348	283	303	—
Typhoid .. ..	1	6	63	70	43	149	173	339	—
	78	88	694	860	1089	1395	1383	1600	—

**INFECTIOUS DISEASES INVESTIGATION****Schools.**

In an attempt to prevent outbreaks of intestinal diseases in schools all food handlers in those schools providing meals were persuaded to submit stool specimens for examination. It was the intention that this should be done at the beginning of each school term but in fact the process took half a term to complete. It was later decided that only new personnel would be tested at the beginning of each term. It is not possible to assess the value of this work by results, as outbreaks of Salmonellosis and Dysentery etc. were not common in any case but it was reasoned that the prevention of an outbreak such as was experienced in one school in 1957 justified the effort involved. In the outbreak referred to the causative organism was Shigella manchester and over 100 pupils were taken seriously ill within a few days. In this case a food handler was found to be a carrier of the organism and needless to say there had been some considerable laxity in kitchen hygiene. The design of the kitchen in this particular institution is not helpful.

The fact that three carriers of Shigella flexner and one of Sonne were found in kitchen staff does however prove the value of the experiment.

### Investigations

During the course of the above, and investigations of cases generally, 668 stool specimens were sent to the Laboratory for examination with results as follows:—

						Schools	Others
Shigella sonne	..	..	..	..	..	2	2
Shigella flexner	..	..	..	..	..	7	1
E. Hystolytica	..	..	..	..	..	18	3
Schistosoma mansoni	..	..	..	..	..	13	3
Ancylostoma	..	..	..	..	..	49	19
Taenia	..	..	..	..	..	94	20
Ascaris	..	..	..	..	..	16	12
Strongyloides	..	..	..	..	..	23	—
Giardia	..	..	..	..	..	2	—
Trichuris	..	..	..	..	..	8	—
Negatives	..	..	..	..	..	268	136
Total	..	..	..	..	..	500	196

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Double infections	..	..	..	..	..	21	4
Treble infections	..	..	..	..	..	2	—

The cooperation of the Medical Research Laboratory of the Kenya Government Medical Department was much appreciated in these investigations.

### Smallpox (Variola minor or Alastrim)

33 cases of Smallpox of a very mild nature were reported during the year each one of which was of course investigated, resulting in the vaccination by the staff of this section, of 2,823 contacts. This is in addition to persons vaccinated at the Inoculation Centre.

### Typhoid

44 cases of Typhoid Fever were investigated and 59 contacts referred to the Inoculation Centre for immunisation. No connection was proved between any of the cases which were widely scattered; and no carriers were discovered during investigation. 26 cases were not investigated as notifications were received three weeks or more after the patient had been admitted to hospital.

### Visits

590 home visits were made during investigations in addition to over 100 visits to schools.

## **Statistics—General**

As has been stated in the reports of previous years, the Department is not satisfied that the statistics provided are entirely accurate, and a warning is invariably given that their greatest value is for comparison from year to year.

It is known, for example, that many infectious diseases are not notified to this Department. Many cases which have not been notified are found accidentally in the course of investigation—frequently unconnected with infectious diseases.

It is thought, amongst the Asian community at least, that the desire to hide notifiable diseases is due to their dislike of having to go into hospital. The attitude, however, to infectious diseases nowadays have somewhat altered, and it is rarely necessary for a patient to go to hospital, except in his own interests.

If this fear of hospitalisation, a carry-over from the past attitude towards infectious diseases, is one of the reasons for diseases not being notified, then it is a reason which should no longer exist.

When infectious diseases are notified, visits are paid by members of this Department to the sick person and contacts. It is thought that many people do not appreciate the purpose of these visits, and that amongst the Asian community in particular, there is some misunderstanding. It is desirable to point out that such visits are made purely in the interests of the people concerned and of the community in general, and that there is no intention to interfere in any way with domestic circumstances except in exceptional cases.

If these two fears were allayed, it is felt that more cases might be notified and that our statistics in this direction might show a marked improvement. The Department is anxious to help in every way, and requests the co-operation of all doctors in the city.

## MALARIA AND YELLOW FEVER CONTROL

### Malaria Control Section

From a purely Malaria aspect this section had few problems during 1958. Rainfall was slightly above average but the pattern of its fall was unusual in that falls were heavy and widely spaced with long periods of dry weather in between and, in fact, from an agricultural point of view the rains failed in the Nairobi area. Of the 7.9 inches which fell in May, five inches deluged Nairobi in a matter of a few hours in one evening. This caused serious damage to almost all anti-malarial drains and severe flooding over wide areas of flat ground.

Later in the year rainfall was very poor and rivers and streams ceased to flow and were stagnating in miles of small pools. This caused heavy Culicine breeding in addition to the usual sources of this menace. No Vector Anopheline larvae were discovered in the City during the year although collections of non-vector anopheline larvae were brought in fairly regularly from slow moving streams, seepages and swamps.

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Difficulties were experienced in the selection of adult catching stations, as the old type mud and wattle hut so much favoured as a hiding place and source of food by adult mosquitoes is fast disappearing and the modern type of boys quarters afford little in the way of dark and secure hiding places. In addition, large quantities of insecticides are now used by all and sundry and it is almost impossible to control this type of catching station. In fact the value of adult catching stations under these conditions seems doubtful. The following table gives Malaria cases notified and Vector Anopheline catches during the year.

### TABLE

#### Malaria Cases and Vector Catches by Months

(Residents contracting in Nairobi)

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Europeans	—	—	—	—	—	—	—	—	—	—	—	—	—
Asians	1	—	—	—	—	—	—	—	—	—	—	—	5
Africans	5	13	6	3	10	19	29	7	3	12	4	7	118
TOTALS	6	13	6	3	11	21	29	7	3	12	5	7	123
Vector Anopheline Catches	3	2	—	—	—	2	—	—	—	—	—	—	7

## **Anti-Malarial Drainage**

Good progress was made in the clearance of rivers and streams and advantage was taken of favourable conditions to extend operations to the elimination of some trouble spots by the re-building of stream banks, filling etc.

The Nairobi swamp came back into its own after the May deluge when the Nairobi river broke its banks and flooded an area of several acres. This damage was later repaired by this section but will require attention by the City Engineer's Department to make the repair permanent.

During the last few years many sub-divisions were approved without the developer providing stormwater drainage and in many cases the Council had later to construct drains at the rate payer's expense, often with complications because of lack of way-leave etc. This state of affairs has now been rectified and this section is consulted on all new development and sub-divisional schemes.

## **New Drainage**

Several new anti-malarial drains were constructed but the most important development was the reconstruction of part of the main outfall drain which joins the Ngong river and takes most of the surface water from the Nairobi Hill area. This drain apart from being inadequate in size was in a state of collapse and could not have survived much longer. It is hoped to complete the job and extend canalisation of the Ngong river during 1959.

## **Malaria**

**35**

Cases notified as being contracted in Nairobi were 123 compared with 142 in 1957 and 171 in 1956. There were no European cases and only 5 Asian, the remainder being African.

The variation in these figures suggests that even these African cases are possibly not primary Nairobi infections and this is strengthened by the absence of Vector Anophelines. There is considerable movement of African women and children between the City and Reserves and it is the custom for mothers to bring a sick child to the father who will then take it to a doctor or a clinic. The breakdown of the African malaria figures is then even more suggestive, as follows:—

Children 92, Women 14, Men 12.

Of the cases notified 104 were Sub tertian and 13 Benign tertian. The remainder were diagnosed on clinical grounds only.

## **Locality of Cases**

African Estates 99, Eastleigh 5, Central 6, Hill area 8, Not stated 5.

## **Deaths**

24 deaths from Malaria were notified but it is not known where the infection was contracted.

### **Other Cases**

Malaria cases notified as having contracted the infection outside Nairobi City numbered 883.

### **MALARIA**

Race	Cases	Attack rate per 10,000	Deaths	Death rate per 10,000
Europeans	—	—	—	—
Asians	5	0.59	1	0.11
Africans	118	10.26	23	2.0
<b>TOTAL</b>	<b>123</b>	<b>5.54</b>	<b>24</b>	<b>1.08</b>

### **Attack Rate over past Five Years**

	1954	1955	1956	1957	1958
Attack rate per 10,000	6.53	6.4	8.14	6.4	5.54

### **Aedes (Yellow Fever) Domestic Mosquito Control**

**36**

This Section was at last happily settled into satisfactory permanent accommodation in the main building of the City Hall on July first.

#### **Staff.**

The following staff changes took place during the year:—

Mr. M. I. Shah, who served with this section for ten years was transferred to the Health Inspectorate on 1st. June, 1958.

Mr. Odell joined this section on 2nd September, 1958 and was transferred during October as Senior Municipal Inspector.

Mr. L. H. Clough was transferred from the rodent section on 1st December.

#### **Number of Premises**

The number of premises to be inspected increased by over 2,500 during the year, which includes about 1,000 premises (Europeans and Asians) of the Railway Administration brought under the jurisdiction of Aedes (Yellow Fever) Domestic Mosquito Control of the Council.

#### **Inspections**

In view of the ever increasing number of premises, and to cope with the increased amount of inspection work with the existing staff, inspections were made on a fortnightly cycle instead of weekly as in the past.



*The neglected Septic Tank—cause of much Culicine nuisance*



*Typical breeding places for Aedes Agypti seen on a Nairobi roof top*



The total number of house inspections during the year was 484,956 from which 8,796 collections of mosquito larvae were made. Of these 8,722 Culex Species, 72 Aedes Species and 2 Anopheles were found,

Out of 72 Aedes Species, 51 collections were from temporary foci such as old motor vehicle tyres, old drums and tins and 21 species were collected from permanent foci, mainly rain water tanks.

Comprehensive details of mosquito breeding during the year are in the table "Aedes Permanent and Temporary Breeding Foci and Indices."

### Breeding Foci

The following table gives a comparison of larvae collections over the past five years:—

Year	Aedes	Anopheles	Culex	All Species
1954	83	29	6,463	6,575
1955	77	4	7,119	7,200
1956	86	—	6,790	6,876
1957	155	—	10,263	10,418
1958	72	2	8,722	8,796

### Establishment Position

The following table gives details of premises to be inspected and the numbers of Inspectorate Staff during the last five years for comparison purposes:—

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Year	Premises	Senior Headman	Headman	Searcher
1954	11,173	2	8	26
1955	11,787	2	8	30
1956	12,101	2	8	34
1957	12,529	2	8	34
1958	15,167	2	8	34

TABLE

## Aedes Permanent and Temporary Breeding Foci and Indices.

Permanent Foci.	No. examined	Larvae species found (times)					Larvae species found (per cent)				
		Aedes	Aegypti	Anopheles	Culex	All Species	Aedes	Aegypti	Anopheles	Culex	All Species
Septic Tanks	..	..	132,876	—	—	2,339	2,339	—	—	—	1.760%
Rain Water Tanks	..	..	10,853	19	—	72	91	0.175%	—	—	0.663%
Gullies	..	..	434,190	1	—	281	282	0.0002%	—	—	0.064%
Earth Drains	..	..	126,260	—	—	494	494	—	—	—	0.004%
Concrete Drains	..	..	599,847	—	—	306	306	—	—	—	0.004%
Soakage pits	..	..	63,327	—	—	1,393	1,393	—	—	—	0.051%
Bath Pits and Sunken Drums	..	..	49,190	—	—	1,214	1,214	—	—	—	2.199%
Water Meters	..	..	296	1	—	125	126	0.338%	—	—	2.468%
TOTAL Permanent Foci	..	..	1,416,839	21	—	6,224	6,245	0.001%	—	—	0.440%
<b>Temporary Foci.</b>											
Tins	..	..	101,600	9	—	83	92	0.008%	—	—	0.082%
Drums	..	..	131,519	5	—	422	427	0.003%	—	—	0.321%
Motor Tyres	..	..	51,264	15	—	1,007	1,022	0.029%	—	—	1.964%
Hollows	..	..	1,178	—	—	353	353	—	—	—	1.993%
Other not specified	..	..	27,923	21	2	592	615	0.075%	0.007%	—	29.966%
TOTAL Temporary Foci	..	..	319,688	51	2	2,498	2,551	0.016%	0.001%	0.781%	0.797%
GRAND TOTAL	..	..	1,736,527	72	2	8,722	8,795	0.004%	0.0001%	0.502%	0.506%



*Bad Sanitation—the cause of much of the Culicine problem.*



## Prosecutions

Although it is not a legal obligation, it has been the practice of the Department to serve a courtesy warning notice to anyone found to be allowing mosquitoes to breed on their premises. 3,868 such notices were served during the year on the owners or occupiers of premises where mosquito larvae were found and the majority of the persons concerned took immediate action.

126 prosecutions were instituted under the City By-Laws. Only two cases were acquitted and five cases were withdrawn for various reasons. There was only one case pending at the end of the year.

118 persons were convicted and paid total fines of Shs. 5,255.00

The following table gives the number of warning notices served and prosecutions instituted during the past five years:—

Year	No. of breeding premises	No. of warning Notices served	No. of prosecutions	Total Fines
1954	5,942	5,904	76	Shs 5,065.00
1955	6,579	6,532	45	" 4,363.00
1956	7,594	7,552	24	" 2,199.00
1957	8,246	8,219	72	" 8,766.00
1958	3,979	3,868	126	" 5,255.00

## General

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The staff have worked satisfactorily and conscientiously throughout the year.

Over 800 mosquito fish were supplied to members of the public to assist them to control mosquito breeding in their different types of ponds.

Mr. Mohamed Yusuf Ahmed assisted the Social Service League in the Poliomyelitis Inoculation of members of the public at the Inoculation Centre after his duty hours. This service was much appreciated by all concerned.

## RODENT AND VERMIN CONTROL

### Rodent Control

No cases of plague occurred in the City but several cases were reported from the native reserve areas some hundred miles away. This naturally caused some concern as there is a great deal of traffic between the reserves and the City. In view of this danger all rodent control staff received preventive inoculation and a strict watch was kept on the situation.

Rats examined in the Laboratory for P. Pestis numbered 2803. These were a selection from daily catches or found dead, and all were negative.

The following tables give details of the years rat catching:—

### T A B L E

#### Total Kill

**40**

Rattus rattus	..	..	..	..	4458
Rattus natalensis	..	..	..	..	8764
Arvicantis abyssinicus	..	..	..	..	4877
Otomys angoniensis	..	..	..	..	1059
Mice (all species)	..	..	..	..	3928
Others	..	..	..	..	508
					_____
			TOTAL	..	23594
					_____
Estimated kill, gas and poison	..	..			5000
					_____
			TOTAL	..	28594
					_____

### Commercial and Industrial Area

Trapping as an aid to accurate assessment of rat infestation showed a welcome decrease in the infestation index in the Central Commercial Area but quite a large increase in the Industrial Area as will be seen by the following tables.

Information from these trapping records is passed on to District Health Inspectors who deal with offenders by rat proofing notices and prosecutions if necessary.

### Trapping—Commercial Area

Rooms Trapped	Rooms Infested	Index	Trapping Days	Rattus rattus	Mice	Others	Total
1634	185	11.3	204	315	196	—	511

### Trapping—Industrial Area

Godown Trapped	Godown Infested	Index	Trapping Days	Rattus rattus	Mice	Others	Total
396	154	38.8	196	642	143	8	793

During the year 657 rats were caught inside buildings by hand during raids on rat infested premises. This provides valuable factual evidence in cases brought to court and is by far the quickest way of ridding a building of its rats.

### African Estates

The following table shows that even in the City's newest African housing estates infestation is quite high, but it will also be noted that this is accounted for mainly by mice. These live in the large amounts of junk which many Africans delight in accumulating in their rooms.

**T A B L E**  
**Trapping—African Estates**

		Rooms Trapped	Houses Trapped	Rooms and Houses infested	Index	Trapping Days	Rattus rattus	Mice	Others	Totals
Kariokor and Ziwani		1,063	—	131	12.1%	76	44	125	—	169
Pumwani and Goro-fani	.. ..	—	322	130	40.3%	118	69	185	7	261
Starehe	.. ..	388	—	22	5.6%	36	1	24	—	25
Shauri Moyo	..	—	824	266	32.25%	144	107	333	—	440
Kaloleni	.. ..	1,165	—	76	6.5%	64	4	89	—	93
Bahati	.. ..	1,402	—	24	1.7%	128	15	22	—	37
Mobotela	.. ..	1,437	—	164	11.4%	88	4	309	—	313
Ofafa	.. ..	1,830	—	184	10.05%	126	36	270	—	306
<b>42</b> Makadara	.. ..	839	—	111	13.2%	84	3	222	—	225
<b>TOTALS</b>	.. ..	8,124	1,146	1,108	—	864	283	1,579	7	1,869

#### Rat Catching on repayment

There were 102 requests for our services in catching rats in private dwellings and many more worried numbers of the public were given advice which enabled them to deal with the problem. In this respect Warfarin mixed ready for use was offered for sale to the public in 1lb packs and proved very popular.

Fees for this work totalled Shs 2,430.00

#### Hand Catching

The following table speaks for itself as to the value of this work.

**T A B L E**  
**Handcatching in Open Areas and Premises**

				Kariokor and Ziwani	Pumwani and Gorofani	Shauri Moyo	Kaloleni	Bahati	Ofafa	Mbotela	Makadara	Swamp	Ngara and Pangani	Old Abattoir	Other Areas	Totals	
Rattus rattus	..	..	..	..	381	360	204	32	24	221	15	26	724	211	85	92	2375
Rattus Natalensis	..	..	..	..	616	565	969	1300	654	1552	368	273	613	188	286	1269	8653
Otomys angoniensis	..	..	..	..	56	227	85	72	52	109	15	4	77	33	24	286	1040
Arvicanthis abyssinicus	..	..	..	..	477	439	1002	358	315	701	160	204	116	141	240	719	4872
Mice	..	..	..	..	196	65	76	11	33	163	46	20	664	223	8	286	1791
Others	..	..	..	..	63	71	34	17	21	24	8	5	14	28	4	67	356
<b>TOTALS</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>1789</b>	<b>1727</b>	<b>2370</b>	<b>1790</b>	<b>1099</b>	<b>2770</b>	<b>612</b>	<b>532</b>	<b>2208</b>	<b>824</b>	<b>647</b>	<b>2719</b>	<b>19087</b>

**T A B L E**  
**Handcatching in Premises**

	Commercial Area	Industrial Area	Shauri Moyo	Total
Rattus rattus	71	259	—	330
Mice	98	87	5	190
Others	30	107	—	137
<b>TOTALS</b>	<b>199</b>	<b>453</b>	<b>5</b>	<b>657</b>

**T A B L E**  
**Private and Special Trapping and Handcatching**

Rattus rattus	..	..	517
Rattus natalensis	..	..	107
Arvicanthis abyssinicus	..	..	5
Otomys	..	..	19
Mice	..	..	29
Others	..	..	—
<b>Totals</b>	<b>..</b>	<b>..</b>	<b>677</b>

#### Vermin Control

Disinfestation work on repayment is shown in the following table, the fees collected amounting to Shs. 27,812.00. Sales of insecticides prepared by the Department and sold to the public in small quantities at a reasonable price realised Shs. 23,621.25 and sales in larger quantities to Government Departments etc. realised Shs. 5,088.00

## TABLE

## Disinfestations

		Bed Bugs (Cimex Species)	Cockroaches	Fleas	Flies	Safari Ants (Monomorium Pharaonis)	(Sugar Ants Lasius niger)	Termites	Nairobi Fly (Paederus crebrepunctatus)	Woodworms (Lyctus brunneus)	Borer Beetle	Mites-various	Lice (Pediculus humanus)	Ticks	Snakes	Bats	Adult Mosquitoes	General	TOTAL
Rooms-Private Residences	..	2121	67	365	2	—	1	20	9	10	1	9	16	17	—	—	50	5	2693
Rooms-Council African Estates	..	7581	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7581
Shops & Godowns	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12
Bedding and Clothing	..	20	—	—	—	—	—	—	—	—	—	160	—	—	—	—	—	1770	1950
Roof Spaces	..	—	—	—	—	—	1	3	—	1	5	3	—	—	—	1	—	—	14
<b>44</b> Gardens ..	..	—	—	—	—	11	6	19	4	—	—	—	—	—	3	—	—	—	43
Open places and drains ..	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2
Lavatories and Pit- latrines	..	—	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	10
Refuse Tips	..	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Markets ..	..	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	1	4	
Total ..	..	9722	79	365	16	11	8	42	13	11	6	12	176	17	3	1	50	1778	12310

## LABORATORY

The following are details of work carried out in 1958.

### Malaria Slides

	St. Rings	St. Crescent	B.T.	Q.T.	Filaria	Negative	Total
January ..	29	14	7	—	—	1040	1090
February ..	57	9	5	—	—	1131	1202
March ..	42	14	4	—	—	1016	1076
April ..	53	18	9	—	—	903	983
May ..	74	37	31	—	—	766	908
June ..	120	36	29	—	—	1346	1531
July ..	112	26	31	—	—	1010	1179
August ..	61	26	14	—	—	1021	1122
September ..	128	20	24	—	1	1025	1198
October ..	70	30	20	—	—	654	774
November ..	34	10	13	—	—	395	452
December ..	30	—	3	—	—	351	384
TOTAL ..	810	240	190	—	1	10658	11899

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### STOOLS

Ascaris ..	..	..	1,742
Ancylostoma ..	..	..	422
Taenia ..	..	..	422
Trichuris ..	..	..	142
Sch. Mansonii ..	..	..	87
Oxyuris ..	..	..	10
Strongyloides ..	..	..	39
E. Coli Cysts ..	..	..	485
Flagellates ..	..	..	8
Negatives ..	..	..	5,344
TOTAL ..	..	..	8,699

### SPUTUMS

Positive T.B. ..	..	..	..	48
Negatives ..	..	..	..	346
TOTAL ..	..	..	..	394

### SMEARS

Positive G.C. ..	..	..	..	118
Negatives ..	..	..	..	5143
TOTAL ..	..	..	..	5261

### URINES

Positive Sch. Haemt. ..	..	..	81
Negatives ..	..	..	829
TOTAL ..	..	..	910

### Blood Counts.

Total Blood Counts ..	370
Differential Counts ..	342
TOTAL ..	712

### TOTAL.

Malaria Slides .. ..	11,899
Stools .. ..	8,699
Sputums .. ..	394
Smears .. ..	5,261
Uries .. ..	910
Blood Counts .. ..	712
Rats for Plague, etc. ..	2,803
TOTAL .. ..	<u>30,678</u>

## SANITARY ADMINISTRATION

**General.** Reference was made in last year's report to the urgent necessity of increasing the establishment of health inspectors, and it was hoped that in 1958 some improvement in this direction could be expected. Unfortunately, after the Council had agreed to the appointment of two additional health inspectors, these posts were later deleted owing to financial considerations.

For years this section has been understaffed, and although internal re-organisation has increased output, it is felt that the limit of improvement in this direction has now been reached. Comparison of the number of inspections shown in the subsequent tables with those of 1957 shows an increase of some 43%, while the 1957 figure itself was a 70% increase over 1956. This has been achieved partly by deferring leave, but this cannot continue indefinitely, nor indeed would it be wise to encourage it.

I feel it is my duty to point out that unless the inspectorate staff is increased, members of the public will be in danger of being deprived of the measure of protection to which they have been accustomed and which is normally expected in a community boasting city status. When it is remembered that in 1931, with a population of 47,000, four European health inspectors were employed, great credit is due to the twelve members of the staff who, responsible for a population of some 222,000, are doing so much to raise the general standard of hygiene and maintain it at a level comparable with that found in cities with much longer histories of public health administration and much larger staffs.

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A number of factors will make the shortage of staff felt even more acutely in the immediate future. Firstly, several inspectors will be proceeding overseas on accumulated leave. Secondly, recently introduced legislation will add to the inspectors' duties. Thirdly, the accelerated programme of sewer construction places a further burden on the staff which is responsible for securing the conversion of bucket latrines, septic tank and conservancy systems to systems connected to new sewers.

During 1958 three major sewerage schemes were installed—one in the Parklands/Westlands area, one in the Hill district and the other in the Bahati African Location, involving some 500 properties, of which 50 had been connected to the sewer at the end of the year.

The task of securing the demolition of unsatisfactory houses, particularly in the Eastleigh area, was continued during the year, but with only limited success. The presence of houses which are dilapidated, insanitary, overcrowded and verminous is obvious to anyone who visits the Eastleigh area, and it must be a source of wonder to the unenlightened that such premises are allowed to remain.

Unfortunately, from the public health standpoint, the processes of the law sometimes hamper efforts made to protect the health and wellbeing of the persons existing in these unsavoury conditions, while the absence of owners,

the lack of alternative accommodation at a reasonable rent and the habits of the occupiers combine to make the demolition of occupied dwellings increasingly difficult.

Quite apart from dilapidated buildings, Eastleigh has for years presented other serious problems, mostly connected with the difficulty of disposing of waste. Built almost entirely on black cotton soil, disposal by soakage has been impossible, while the unmade condition of many of the roads and lanes has isolated many plots during the rainy season, making the emptying of conservancy tanks virtually impossible. The consequent overflowing of these tanks adds to the waterlogged state of the access roads which remain impassable for a considerable time after the cessation of the rains, and the offensive nature of the surrounding areas gives rise to serious nuisances which are extremely difficult to abate.

With these problems in mind, it is a source of much satisfaction to see the progress which has been made in the installation of sewers in this area, which will lead to the elimination of bucket latrines and conservancy tanks. Although the work involved in requiring owners of the 600 properties concerned to make the necessary changes will be formidable, it is a task which this Department will undertake with enthusiasm in view of the long term advantages.

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It is pleasing to be able to report an increasing liaison between this Department and the Building Surveyors' Section. Joint representations during the year led to the introduction of a new standardised code of practice for the installation of drainage systems in black cotton soil. Past experience has shown that the methods being used by plumbers and drainlayers were quite inadequate, and an entirely new technique was required. The agreed methods inevitably involved increased initial costs in construction, and to offset this to some extent a concession was made to the effect that where a conservancy tank was found to be necessary and the whole installation was to the new specification, the septic tank could be omitted. Such installations demand a high standard of workmanship and close supervision, but although it is rather early to make an accurate assessment of the result, first indications are very encouraging.

There is also close co-operation between the two Departments concerning unauthorised structures and unauthorised use. No less than 210 such reports were forwarded, and the Building Surveyor has in every case taken such action as has been open to him.

The normal routine work of inspections has continued throughout the year, and it will be noted that there has been a considerable increase in the number of prosecutions initiated. Some concern may be felt at the large number of accused discharged and cases withdrawn. This is due largely to the policy of withdrawing cases where the necessary work has been done before the return of the summons, and also to the inability of the court to continue proceedings in cases where the owner has become bankrupt. The total amount of fines has decreased, as it has been a common practice of the court to make an order to comply with the requirements of a notice and not impose a penalty.

**Restaurants, Tea Rooms and Eating Houses.** Rigorous and persistent control has been maintained on all public catering establishments in the city, with special attention again being given to Asian and African eating houses. The improvement in general standards which began last year has continued in 1958, and it is pleasing to report that the advice and instruction that has been given to all proprietors throughout the year is showing results.

Some pride in premises is following in the wake of the extensive improvements insisted upon in 1957, and interest in food hygiene and general cleanliness both of persons and premises is now evident.

All new eating houses, 13 of which were opened during the year, are made to comply with the highest standards of construction and equipment, and several of them are now a credit to the city. The campaign against substandard premises was continued effectively, and 16 such premises were closed.

No success has yet been achieved in our attempts to close down or improve the disgraceful and dangerous eating houses which still operate in Pumwani and Shauri Moyo, despite recommendation that no further licences be issued in respect of them. Those in Pumwani remain because the new planning scheme for the estate is still awaited and those in Shauri Moyo because they are owned by the City Council. It is particularly unfortunate that the responsibility for the continuance of these unsatisfactory businesses lies with the City Council, while private African eating houses in other Estates have been brought up to a high standard at considerable expense to their African owners. At the time of writing, however, there appears to be a possibility of some improvement being made to the Shauri Moyo premises.

The problem of the Indian sweetmeat manufacturer who operates under the licence of an eating house has not been solved, and kitchens, stores and preparation rooms which were designed for moderate sized eating houses are used for manufacturing large quantities of sweetmeats with most unsatisfactory consequences. Storerooms are overstocked, rooms are filled with huge 'karais' and charcoal braziers, while sweetmeats are found cooling in the open yards and any odd corner available.

The only remedy seems to be to classify such premises as confectionery factories as is done in the case of factories manufacturing other types of sweets.

The programme of bringing all restaurants gradually up to Grade "A" standard was continued. Some have ceased operating as restaurants and become clubs, private hotels or eating houses to avoid the full impact of the Grade "A" requirements. The majority, however, have either reached the goal or will do so before next year when it is hoped that new By-laws will make the standard compulsory.

All European tea rooms were well conducted and fully meet the needs of the city for this type of service.

14 European tea rooms, 26 restaurants and 122 eating houses were licensed in the city at the end of the year, and there are as yet no signs that the continual increase in this type of premises is abating.

### Premises Licensed for the Sale of Intoxicating Liquor.

Increased control of all premises licensed to sell liquor both on and off the premises has been obtained through the Liquor Licensing Court. Full reports are submitted to the Court on all new applications for liquor licences, and no licences are granted or renewed until all our requirements regarding premises, equipment and storage are met. In this way, all new bars, clubs, restaurants and shops requiring liquor licences commence business in premises which meet with our approval, and existing substandard premises are brought up to standard or risk the loss of their licences.

There is, however, much abuse of liquor licences throughout the city by holders of *off* licences who sell liquor cheaply by the bottle for consumption in their shops to the detriment of fully licensed bars which pay high licence fees and have spent large sums of money bringing their premises up to the standard required. Such offences are brought to the notice of the police and in some cases joint applications to the Court by the police and health departments has led to the cancellation of the licence.

There are now 441 premises licensed to sell liquor and all are visited regularly. These licences consist of the following:—

Non-spirituous OFF .. ..	83
Wine Merchants and Grocers ..	150
General Retail (Bar) .. ..	68
Bottlers .. .. ..	5
Wholesalers .. .. ..	25
Hotels .. .. ..	22
Restaurants .. .. ..	36
Clubs .. .. ..	40
Theatres .. .. ..	8
Non-spirituous ON .. ..	2
Canteens .. .. ..	2

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**Mineral Water Factories.** The number of mineral water factories in Nairobi has been further reduced by the closure during the year of one small factory. The remaining five have maintained a reasonable hygienic standard.

**Bakeries.** Five small bakeries closed during 1958, one voluntarily, the other four as a result of action by this Department. There are now eleven bakeries in the city ranging from the small bakers and confectioners to the large new bakery in the Industrial Area.

Improvements in hygienic standards continue and have been assisted by the installation of more modern equipment. The outdated '*kuni*' and handstoked ovens have now disappeared. It is anticipated that new Bakery By-laws will be in force shortly, which should enable the Department to secure the necessary improvements to the few remaining less satisfactory bakeries.

## Summary of Health Inspectors' Work

### Inspections:—

#### (a) General.

Dwelling houses .. .. .. .. .. .. .. ..	16,349
Public buildings .. .. .. .. .. .. .. ..	226
Offices and similar premises .. .. .. .. .. .. .. ..	1,815
Other buildings .. .. .. .. .. .. .. ..	599
Open spaces, lanes etc. .. .. .. .. .. .. .. ..	6,835
Camps .. .. .. .. .. .. .. ..	94
Miscellaneous .. .. .. .. .. .. .. ..	2,884

#### (b) Licensed premises.

Grocers and Provisions .. .. .. .. .. .. .. ..	10,608
Greengrocers .. .. .. .. .. .. .. ..	1,895
Butchers .. .. .. .. .. .. .. ..	2,258
Fishmongers .. .. .. .. .. .. .. ..	103
Bakeries .. .. .. .. .. .. .. ..	210
Eating houses, tea rooms and restaurants .. .. .. .. .. .. .. ..	2,812
Dairies and milkshops .. .. .. .. .. .. .. ..	495
Hotels .. .. .. .. .. .. .. ..	333
Markets .. .. .. .. .. .. .. ..	560
Aerated water factories .. .. .. .. .. .. .. ..	121
Food factories .. .. .. .. .. .. .. ..	814
Laundries .. .. .. .. .. .. .. ..	177
Offensive trades .. .. .. .. .. .. .. ..	57
Second-hand clothing dealers .. .. .. .. .. .. .. ..	8
Barbers and hairdressers .. .. .. .. .. .. .. ..	425
Swimming pools .. .. .. .. .. .. .. ..	78
Food carts and vans .. .. .. .. .. .. .. ..	194
Intoxicating liquor licences .. .. .. .. .. .. .. ..	996

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### Miscellaneous Information

Complaints investigated .. .. .. .. .. .. .. ..	565
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### Notices served:—

(a) Informal .. .. .. .. .. .. .. ..	3,556
(b) Statutory .. .. .. .. .. .. .. ..	1,688
Defects remedied .. .. .. .. .. .. .. ..	2,495
Accumulations of junk removed .. .. .. .. .. .. .. ..	174
Premises connected to sewers .. .. .. .. .. .. .. ..	50
Unauthorised structures reported to City Engineer .. .. .. ..	210

**Unsound Food Condemned:**

										Lb.
Cake (imported) ..	..	..	..	..	..	..	..	..	..	972
Cheese ..	..	..	..	..	..	..	..	..	..	654
Fish (wet) ..	..	..	..	..	..	..	..	..	..	170
Fish (tinned)	..	..	..	..	..	..	..	..	..	1,931
Fruit (fresh)	..	..	..	..	..	..	..	..	..	19,287
Fruit (tinned)	..	..	..	..	..	..	..	..	..	2,358
Meat (fresh)	..	..	..	..	..	..	..	..	..	442
Meat (tinned)	..	..	..	..	..	..	..	..	..	521
Medicine (proprietary)	..	..	..	..	..	..	..	..	..	1,433
Milk (tinned)	..	..	..	..	..	..	..	..	..	6
Pies (imported) ..	..	..	..	..	..	..	..	..	..	166
Provisions (miscellaneous)	..	..	..	..	..	..	..	..	..	3,986
Sausages ..	..	..	..	..	..	..	..	..	..	210
Sweets and chocolates ..	..	..	..	..	..	..	..	..	..	195
Vegetables (fresh) ..	..	..	..	..	..	..	..	..	..	200
Vegetables (tinned)	..	..	..	..	..	..	..	..	..	710
										33,241 lb.

TOTAL FOOD CONDEMNED 14 tons, 16 cwts, 3 qrs, 5 lb

**52****Poultry:**

Inspected	188,342
Condemned	110

## LEGAL PROCEEDINGS

	Prosecutions	Acquitted	Discharged	Withdrawn	Convicted	Fines	Costs
					Shs.	Shs.	Shs.
<b>Public Health Ordinance.</b>							
Failing to comply with nuisance notice (Sec. 120)	..	111	2	27	44	38	3,185/-
Selling or depositing unsound food (Sec. 131a)	..	3				3	160/-
Failing to protect foodstuffs (Sec. 131b)	..	5				4	350/-
Failing to cover water tank (Sec. 139)	..	..	1	1			
<b>Public Health (Food) Rules.</b>							
Using unlicensed premises (Rule 4)	..	..	3			3	800/-
<b>Nairobi Municipality (Building) By-laws.</b>							
Failing to connect latrine to septic tank (By-law 240 A)	1	14	1	1	1	11	1,120/-
Failing to connect to sewer (By-law 241/2)	..	5		2	1	3	310/-
Failing to maintain drains in order (By-law 243)	..						10/-
<b>Nairobi Municipality (General) By-laws.</b>							
Using unlicensed Asiatic Eating House (By-law 45)	..	3			1		3,155/-
Using unlicensed Native Eating House (By-law 78)	..	1					
Failing to maintain cleanliness in Eating House (By-law 109)	..	21			1	3	1,950/-
Selling uninspected meat (By-law 151)	..	3	1			2	300/-
Failing to maintain cleanliness in butchery (By-law 155)	..	2			1	1	150/-
Failing to maintain cleanliness in common passage (By-law 261)	..	2	1	1			
Permitting overcrowding (By-law 263)	..	..	1	1		1	50/-
Failing to reconstruct latrine (By-law 269)	..	..	1			2	600/-
Failing to cleanse latrine (By-law 273)	..	2				2	200/-
Failing to provide temporary latrines (By-law 274)	..	2			1	4	495/-
Overgrown plots (By-law 328)	..	14		2	3	5	575/-
Accumulations of junk (By-law 616)	..	..	10				10/-
	205	7	33	61	104	11,795/-	184/-

NOTE. Prosecutions taken by Licensing Officer for trading in foodstuffs without a licence are not included in the above.

## FOOD INSPECTION

### MILK

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The popularity of pasteurised milk in Tetrapak containers continues to increase, in spite of occasional complaints regarding taste and quality. Although these are usually unjustified, it must of course be recognised that a bulked supply of milk tends to be lower in fat content than milk from a specialised herd. Nevertheless, it is invariably well above the legal minimum and the keeping quality is excellent.

An attempt is now being made to popularise the sale of pasteurised milk in polythene containers, which can have a very attractive appearance. They have the advantage of being stronger, although transparent, but the milk cannot be retained in the container after opening. This is another welcome step towards the ultimate aim of supplying all milk in hermetically sealed containers which cannot be tampered with after leaving the dairy. In actual fact, instances of watered milk being sold to the public have now practically ceased, but the possibility still remains.

During the year the standard of dairies continued generally satisfactory and one new dairy built to modern standards in 1957 was fitted out with modern equipment.

In the African Locations, Council-owned properties operating as dairies have failed to progress in keeping with modern standards and compare very unfavourably with the majority of privately owned dairies. The inadequacy of the premises coupled with the reluctance of the occupiers to install modern equipment have necessitated the decision to issue no further dairy licences, and in future these premises will be allowed to sell milk only in sealed containers as received from registered dairy premises.

## TABLE

### 1. Resazurin Tests:

Month	Category			Total	
	A 4—6	B 1—3½	C 0—½		
January ..	..	436	46	89	571
February ..	..	284	12	5	301
March ..	..	244	24	8	276
April ..	..	295	30	14	339
May ..	..	299	22	36	357
June ..	..	674	36	29	739
July ..	..	621	14	—	635
August ..	..	336	—	—	336
September ..	..	472	2	3	477
October ..	..	386	10	2	398
November ..	..	395	15	—	410
December ..	..	308	3	4	315
<b>TOTAL</b>	<b>..</b>	<b>4,750</b>	<b>214</b>	<b>190</b>	<b>5,154</b>

### 2. Phosphatase Tests:

Efficiently Pasteurised	Inefficiently Pasteurised	Not Pasteurised	Total
22	3	—	25

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### 3. Estimation of Fat and Non-Fatty Solids:

		Satisfactory	Unsatisfactory	Total
Milk ..	..	1,609	121	1,730
Cream ..	..	3	1	4
<b>TOTAL</b>	<b>..</b>	<b>1,612</b>	<b>122</b>	<b>1,734</b>

**Vinegar.** During the year, the standard of locally produced vinegar received some attention. It was found that a solution of diluted acetic acid with added caramel was being labelled and sold to the public as "Pure Vinegar". All manufacturers in and around Nairobi have been warned that legal action will be taken unless this serious misrepresentation ceases. As a result of our action, the Government Medical Department circularised all local authorities and Health Inspectors in Kenya, drawing their attention to this matter.

**Food Standards.** The work of the Government Food Standards Committee on which this Department is represented has at last borne fruit by finalising the Labelling and Advertisement of Food Rules which come into force on the 1st April, 1959. While these regulations are a welcome and long overdue addition to Kenya legislation, the work and time that will be involved in their implementation will impose a burden on the staff which it is unlikely to be able to carry without an increase in the establishment. Much work remains for this Committee, and preparations are being made for the introduction of regulations to control the quality of a wide variety of foodstuffs.

#### Samples Submitted by Food Inspector to Government Bacteriologist

Article	Satisfactory	Unsatisfactory	Total
Aerated waters .. .. ..	102	2	104
Cheese .. .. ..	—	1	1
Condensed milk .. .. ..	—	1	1
Ice Cream .. .. ..	1	—	1
Mains water .. .. ..	68	5	73
Ringer's Rinses .. .. ..	2	4	6
Swimming Bath water .. .. ..	23	2	25
Tinned fish .. .. ..	1	—	1
	197	15	212

#### Samples Submitted by Food Inspector to Government Chemist

Article	Satisfactory	Unsatisfactory	Total
Aerated waters .. .. ..	6	—	6
Baking powder .. .. ..	1	—	1
Bread .. .. ..	1	—	1
Condensed milk .. .. ..	2	—	2
Dried milk .. .. ..	1	—	1
Flavoured straws .. .. ..	2	—	2
Ghee .. .. ..	—	1	1
Gin .. .. ..	1	—	1
Medicine (prescriptions) .. .. ..	3	4	7
Squashes .. .. ..	1	—	1
Sugar .. .. ..	3	—	3
Tinned fish .. .. ..	1	—	1
Tinned meat .. .. ..	1	1	2
Vinegar .. .. ..	—	3	3
Water .. .. ..	1	2	3
Whiskey .. .. ..	1	—	1
	25	11	36

## EXTRACT FROM THE ANNUAL REPORT OF THE CITY ENGINEER

**Sewerage and Sewage Disposal.** The annual rate of construction of sewers increased considerably during 1958. 66,931 feet of foul sewers of various sizes were constructed by Council during the year compared with 15,664 feet during 1957 and 4,028 feet in 1956.

The following are details of the various schemes carried out:—

Parklands/Westlands Sewerage Scheme .. . . .	37,626	lin. ft.
Parklands Foul Sewerage, Phase I .. . . .	6,529	„ „
Hill Area Relief Sewerage Scheme .. . . .	15,731	„ „
Pratap Road—Sclaters Road Sewerage .. . . .	2,538	„ „
Mbuyu Lane Sewer .. . . . .	750	„ „
Joint Govt./City Council African Housing Scheme, Ofafa	3,112	„ „
Bahati Sewerage Scheme .. . . . .	645	„ „

A total of 14,641 feet of surface water sewers of various sizes have been constructed during the year.

**Sewage Disposal Works.** The Eastleigh Sewage Disposal Works is now 30% overloaded and the position will become progressively worse until the completion of the first stage of the Boundary Works which, it is estimated, will be working to capacity immediately upon completion.

The first stage of the Boundary Works is now under construction and is scheduled to be completed by August, 1961. It is expected that construction will be sufficiently advanced to receive sewage by October, 1960.

**Maintenance.** Preventive maintenance was carried out on all sewers in the City. 11 manhole covers have been stolen during the year and it is expected that such thefts may increase. All future schemes are being provided with locking type manhole covers.

## WATER SUPPLY.

### Sources of Supply:

- (a) Sasumua Reservoir commenced the year with about 1,653 million gallons storage. The water level has fluctuated a few feet below the spillway throughout the year. During the heavy rains large quantities of water discharged over the spillway into the Sasumua River, and the access road bridge into the forest had to be reconstructed after being washed away. 1,450,776,000 gallons have been supplied to the City at an average daily rate of 3,974,728 gallons.

Construction work on the outstanding works programme continued, the majority being completed during the year, and the few remaining items will be completed early in the new year.

Council's Consulting Engineers, Messrs. Howard Humphreys and Sons, continued design work in connection with the extension of the purification works. Trial boring and experimental piling was carried out on the site of the new treatment plant. Candy Filter Co. Ltd. successfully tendered for the supply of the necessary equipment to be erected in the new works. Messrs. W. and C. French Ltd. were the successful tenderers for the construction of the new pipeline and they commenced operations in December.

Routine samples of raw water were taken for chemical analysis.

- (b) Ruiru Reservoir continued to overflow during the year with a maximum storage of 656,000,000 gallons. 1,136,929,000 gallons have been supplied to the City at an average daily rate of 3,114,873 gallons.

Maintenance work on all pipework and chemical dosing equipment has been carried out during the year to minimise corrosion. Routine thinning out and replanting of trees and the procuring of wattle bark and charcoal has continued.

Samples of raw water were taken for chemical analysis.

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- (c) The Kikuyu Reservoir has been maintained at a constant level throughout the year and has not been allowed to overflow. 376,220,000 gallons have been supplied to the City at an average daily rate of 1,033,479 gallons.

It was necessary to draw down the reservoir for a short period, without interrupting the supply to the City, for removing vegetable growth which had accumulated, and at the same time the outlet screens were renewed.

Two metered connections have been installed on the 9 inch diameter Kikuyu pipeline to afford supplies to the Kiambu African District Council for their new villages. Preliminary work commenced in connection with the proposal to install micro-straining equipment on the Kikuyu supply.

Routine samples of raw water were taken for chemical analysis.

- (d) The Nairobi Reservoir and treatment plant has remained closed down except for routine inspection and maintenance work. Trial running of this plant has been carried out to ensure that it is in operational order. All rainfall records are being kept by the Ministry of Works.

**Quality of Water.** The quality of the water delivered to the City has been maintained to a high standard and the colour is consistently below 5 Hazen units. 84 routine and well distributed samples were taken for bacteriological tests and only one failed to reach the classification of 'highly satisfactory'.

This sample was immediately re-taken and was found also to fall within this category, indicating that it was not the water but the sampling which was at fault.

**Delivery and Consumption.** The total quantity of water treated and delivered into Council's mains during 1958 was 2,910,359,000 gallons on an overall average of 7,973,586 gallons per day. The City's total population is estimated at 230,000 and on this basis the average consumption per head of population had risen to 35.8 gallons/day by the end of the year. The average for 1958 was 34.7 gallons/day per head.

**Supply and Demand.** Throughout the year the headworks have been able to cope with the ever increasing demand within the City, but it should be borne in mind that the margin between supply and demand is decreasing rapidly. The maximum daily quantity supplied has approached the 9,000,000 gallon mark, which gives a clear indication of the expansion within the City. Storage within the City is now limited to one day's supply; this will be improved when the new storage reservoir at Nairobi Hill has been constructed, but additional storage at Kabete should be commenced as soon as funds are available.

In order to reduce excessive pressures within the City, pressure reducing valves have been ordered and it is hoped their installation will be carried out early in the new year. A portable pitometer has been purchased in order to carry out flow tests on all incoming and outgoing mains from Kabete. The mains detector and leak locator obtained during the year have resulted in the location of numerous underground leaks and the tracing of mains.

**Building Activity.** Building plans dealt with numbered 214 more than the preceding year, though in value were less by £1,219.70/-.

Plans approved show that residential development accounts for approximately 47% of the total cost, commercial development 30% industrial development 11% and miscellaneous 12%.

Excluding Municipal, Government and High Commission building plans, 1,818 plans at a total value of £7,337,314 were approved during the year.

**Ambulance Service.** The total number of calls received for the services of the ambulance based at Fire Station Headquarters was 323, an increase of 24 calls as compared with 1957, and an increase of 71 calls as compared with 1956.

#### Classification of Calls.

Patients		1958	1957	1956
Europeans	.. .. .. ..	173	195	179
Asians	.. .. .. ..	102	94	73
Africans	.. .. .. ..	48	10	—
		323	299	252

### Mileage

Europeans	..	..	..	1,485	1,694	1,510
Asians	..	..	..	680	627	519
Africans	..	..	..	430	80	—
Police request	..	..	..	153	92	—
				2,748	2,493	2,029

Revenue from Ambulance hire charges	£519	£480 4 0	£405 16 0
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**Public Cleansing.** Reorganisation of the Cleansing Section, commenced in September, 1957, has continued to progress satisfactorily. Conversion from articulated to rigid vehicles is now well under way and is showing its worth already in providing a more efficient service, and, economically, by providing substantial savings on running and maintenance costs. A considerable amount of new development in all areas, both industrial and residential, has been absorbed in the conversion scheme and yet the estimate for 1959 for refuse vehicles shows a saving on actual expenditure in 1957 of £8,000. This figure should reach £10,000 when the whole of the refuse collection fleet is converted.

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In conjunction with main sewerage schemes which are being constructed at the present time, and consequent conversion to waterborne sanitation, the exhauster service and night soil collection service is being reorganised and will include conversion from articulated to rigid vehicles.

**Refuse Removal.** Refuse is collected three times a week in all areas except the central area where collection is made every night except on a Sunday. The Bin Container Service for commercial premises is a daily service and is scheduled for reorganisation when a new vehicle, at present on order, arrives.

**Refuse Disposal.** The Leeds Road tipping area was closed down in June when all refuse disposal was transferred to Blowers' Quarry. This is an ideal tipping site and savings were effected immediately (on tipping operations) amounting to £4,000 per year. As the site is very close to the built-up area there will also be considerable savings on petrol consumption and vehicle wear and tear. The area of land purchased is five acres approximately, and the superficial area of the quarry is  $2\frac{1}{2}$  acres.

**Scavenging.** Reorganisation of this service continues to progress satisfactorily. The whole of the central area, in which night refuse collection takes place, is now swept nightly. The work of the Cleansing Section will be made much easier in the central area when car parks are paved and other roads and lanes made up to a tarmac standard, as in wet weather a considerable amount of mud and dirt is deposited on tarmac roads from the aforesaid car parks and "unmade" lanes by vehicular traffic. A gully cleansing vehicle, at present on order, will be put into operation as soon as it arrives, to replace existing manual labour.

**Night Soil Collection and Disposal.** Extensive sewerage schemes, now commenced, in Parklands/Westlands, Eastleigh and the African Estates will cause a big reduction in this service and necessitate reorganisation. A new rigid vehicle will replace two Scammell articulated units in 1959. The very nature of this service makes it the most difficult to administer and the only answer to the various problems is the complete abolition of all bucket latrines.

**Conservancy—Exhauster Service.** Once again the new rigid vehicle brought into use on this service has proved its worth as opposed to the articulated unit. This vehicle has a better all-round performance being able to carry more and larger loads, and being able to work on bad road surfaces which previously were inaccessible to the articulated unit. When the three new vehicles, at present on order, are delivered, this service will be reorganised.

## STATISTICS.

### (a) Refuse Removal

Total daily collections .. .. ..	Tons	65,789
Special removals .. .. ..	Loads	159
General scavenging .. .. ..	„	5,261
Derelict vehicle bodies cleared .. ..	No.	167
Carcase collection—Vet. Clinic and others ..	No.	753
Number of dustbins .. .. ..	No.	19,527
Number of bin containers .. .. ..	No.	86

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### (b) Exhauster Removals

Conservancy tanks .. .. ..	Loads	22,709
Waste water pits .. .. ..	„	10,891
Septic tanks .. .. ..	„	1,224

### Regular Service

No. of conservancy tanks .. .. ..	„	738
No. of waste water pits .. .. ..	„	382

### (c) Bucket Service

Conservancy lorries .. .. ..	Loads	2,103
Small trailers (inc. Army) .. .. ..	„	1,053
Number of buckets .. .. ..	African estates	1,902
	Other areas	4,085

### (d) Choked Drains Cleared

African estates .. .. ..	1,070
Other areas .. .. ..	509

## EUROPEAN CHILD WELFARE

1958 was a year of financial stringency in many European families, and the trend towards both parents working outside the home increased, making the work of this section even more important. The City Council had likewise to be stringent with its finances, and urgent expansion was consequently postponed.

**Staff.** Dr. Gaffikin continued as Medical Officer in Charge and also represented the City Council on the Committee of the Lady Northey Home. Mrs. Angel continued to do excellent work as one of the health visitors. Mrs. Sullivan resigned after ten years' service with the City Council at the end of January, and this opportunity is taken of thanking her for excellent work. Following her resignation, there was great difficulty in recruiting a second health visitor. A single lady, who accepted the post, found she was unable to maintain herself on the salary, and a second health visitor felt that she was unable to carry out her duties to the satisfaction of her professional conscience under the pressure which has become habitual in this section. Mrs. Pereira was transferred from the African Maternity and Child Welfare Section, and finally accepted the post.

### Buildings

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**Parklands Clinic.** This clinic continues to be very loaded throughout the year, but from the design point of view has been very satisfactory, and copes with the work extremely well.

**Woodley Clinic.** The clinic was accommodated, as before, in part of the Nursery. The rooms available were inadequate in 1956 and consequently, with the increase in the work, grossly overcrowded in 1958. A new building is urgently needed.

In order to relieve the congestion, the Medical Officer vacated her office and during clinic sessions is now consulting in the staff room of the Day Nursery. Even this move has not provided adequate relief for the congested clinics being held here.

**Clinic Activities.** Attendances increased throughout the year and an effort was made to meet the increased demand by making the sessions on Tuesdays and Thursdays, originally intended for inoculations only, into advisory periods in the hope of reducing pressure on the doctor's sessions on Mondays and Wednesdays. This experiment was not a success, as these sessions merely became full-scale clinics, while there was no perceptible diminution on other days.

Senior girls from the Kenya High School continued to attend our afternoon sessions as helpers. They have become adept at making themselves useful, and have rendered an extremely valuable service which is much appreciated.

**Health and Welfare.** The application of the methods advised for infant care and feeding appear to have produced consistently successful results which have given encouragement to both parents and staff to persevere in the recom-

mended methods despite criticism from the devotees of older methods.

Clinic attendances were excellent throughout the year. There were 585 new registrations in the 0—1 year group, representing a high proportion of infants born in the city, throughout the year. New registrations in the 1—6 year group has always been less satisfactory, and continued so—possibly reflecting the smaller proportion of visiting time which can be devoted to these children, and also the greater tendency for mothers to go out to work as their children get older. It is not easy for women in full-time employment to attend clinics, even in the late afternoon sessions. The health supervision of such families often creates a real problem.

Child health on the whole was good throughout the year, but recurring and debilitating attacks of so-called 'flu were very common. It appeared that immunity was short-lived and reinfections were frequent. Treatment was unsatisfactory and mainly symptomatic. Massive doses of multi-vitamins seemed to have as good results as anything.

It would appear that public awareness of the services offered by this section is increasing. Frequently services are asked for by people only a few days after they have arrived in the Colony from the United Kingdom.

**Home Visiting.** In most cases initial visits were carried out in hospital and were followed up by home visits. The Matrons and staffs of the Princess Elizabeth Hospital and the nursing homes have given every co-operation and help.

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Most of the home visiting is done to the most vulnerable age group, namely infants under one year, and the greatest effort is concentrated on them. Because of the shortage of staff, visits to older infants and toddlers is not as satisfactory as it might be, and as the demands of the younger ones increased, the visiting of older infants deteriorated. This is an unsatisfactory situation, and can only be remedied by an increase in staff.

There has been an increased need to co-operate with charitable bodies and with Government relief services to help families who are in real financial distress. This is a point of considerable social significance.

In the latter part of the year, By-laws controlling child-minding were passed, and will be put into operation in 1959. Control will be by licensing, and it is hoped thereby to improve the standards of child-minding in the city. This will put further work on the health visitors, who will have to inspect these establishments.

These By-laws will also mean that the Council will be able to supply a list of reliable child-minders for the use of mothers who are compelled to work.

The allround increase in work—increased attendances, visits to Day Nurseries, etc.—has resulted in an increase in paper work and administration. This also eats into the time available for home visits, and a third health visitor could find more than enough work to do in this section. It is hoped that the urgent need for an increase in establishment will be met in the very near future.

## STATISTICAL RECORD

				Parklands	Woodley	Total
<b>Attendances</b>						
0—1 year	..	..	..	4,078	3,288	7,366
1—6 years	..	..	..	2,375	1,956	4,331
<b>New Registrations</b>						
0—1 year	..	..	..	346	239	585
1—6 years	..	..	..	286	195	481
<b>Immunisations</b>						
Vaccination	..	..	..	493	357	850
Diphtheria	..	..	..	40	25	65
Pertussis	..	..	..	48	89	137
Diphtheria/Pertussis			..	734	564	1,298
T.A.B.	..	..	..	64	31	95

### Home Visits

64			Hospital	Home	Total
	First Visit	..	..	847	725
	Revisit	..	..	114	4,642
					4,756

### Comparative figures—5 year period.

		1954	1955	1956	1957	1958
Attendance for advice, etc.	..	3,722	5,990	6,184	9,681	11,697
Vaccination	..	287	428	609	671	850
Diphtheria inoculation	..	122	172	64	109	65
Pertussis inoculation	..	523	9	17	57	137
Diphtheria/Pertussis inoculation	..	219	548	842	1,035	1,298
T.A.B...	..	74	336	119	140	95
<b>TOTALS</b>	..	4,947	7,483	7,835	11,693	14,142





*Woodley Day Nursery*

## DAY NURSERIES

### Parklands Day Nursery

The attendance during the year was good until November and December, when 47 cases of chickenpox were reported.

The staff worked hard and willingly, and gave much thought and care to the wellbeing of the children.

Mrs. Carcasson was appointed Deputy Matron in January.

Sports Day and a small Fete was held in June. £84 was raised from this and given to the Polio Fund.

A case of poliomyelitis was reported in November. Temperatures of all children were taken on arrival at the Nursery every morning, otherwise the normal routine was carried out. There were no more cases. It is hoped that the child will be able to return early in 1959.

The Christmas Party, with Father Christmas in attendance, was its usual success. Owing to the unsettled weather, the Christmas Concert was held indoors, which limited the audience. "How Far is it to Bethlehem" was produced by Mrs. Carcasson and Mrs. Twohey. "The Mad Hatter's Tea Party" from 'Alice in Wonderland', and "Nursery Land Town" were produced by Mrs. Ross-Whyte. A collection taken after the concert amounted to £30, and was divided equally between St. Nicholas School for backward children and the Child Welfare Society of Kenya.

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During the last part of the year there were several staff changes which were unavoidable, being due to changed personal circumstances of the members of the staff concerned.

### Woodley Day Nursery

The number of children attending the Nursery has remained fairly constant at approximately 120 throughout the year. In the early part, however, a large number went to the Primary School and this resulted in a decrease for the first few months.

It is pleasing to note that the impression that the Woodley Day Nursery is for residents of Woodley Estate only is disappearing and several children now come from considerable distances.

As far as is possible, children are now placed in age groups for their class lessons, and the system seems to be working very well.

Sports Day was held on July 12th and was enjoyed by all. Councillor E. S. Wilson, the Deputy Mayor, kindly presented the prizes.

The Christmas Party was held on December 18th and Her Worship the Mayor, Alderman Mrs. M. Needham-Clark honoured the party with her presence.

There has, unfortunately, been a considerable amount of illness amongst the children. There was an outbreak of chickenpox in January and mumps in February. In addition, there were two epidemics of influenza which attacked many of the children.

The staff worked very hard throughout the year, and the atmosphere in the Nursery was a very happy one.

### High Ridge Day Nursery

The demand for children to attend the Nursery increased during the year, and during November and December there were 85 names on the register.

An additional member of staff—an assistant teacher—was engaged in November, to work mornings only.

The large number of pupils has emphasised the inadequate accommodation, particularly during wet weather (the nursery was originally built to accommodate 40 children). In particular, toilet facilities are very inadequate. Recommendations are to be put forward for increasing the accommodation in 1959.

There was very little infection in the Nursery during the year, and the children on the whole kept in a good state of health, absenteeism being due mainly to local leave and colds.

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The Nursery was decorated throughout during the year, and an electric cooker was installed in the kitchen.

Some new equipment in the form of a slide, an electric record player and other minor items were provided.

The staff have worked well throughout the year and have taken a great interest in the children.

### DAY NURSERY ATTENDANCES

	Parklands		Woodley		High Ridge	
	1957	1958	1957	1958	1957	1958
Regular full day	..	22,528	26,142	18,357	17,796	9,324
Regular mornings	..	10,650	9,670	5,998	7,322	7,404
Casual full day	..	590	492	818	450	98
Casual half day	..	219	398	632	836	—





*Asian Maternity and Child Welfare*

**ASIAN MATERNITY  
AND CHILD WELFARE****STAFF**

Dr. Philippa Gaffikin continued throughout the year as Medical Officer in Charge and Dr. Ellen Shirley for most of the year was part-time Medical Officer. During the period when Dr. Shirley was sick, Dr. Ruth Ehrman carried out the part-time duties.

Towards the end of the year, Council gave permission for the services of the second doctor to be full-time, and Dr. Pamela Anderson was appointed in this capacity on October 1st.

Mrs. Margaret Arthur continued as Supervisor of Health Visitors and Midwives, and for part of the year she was assisted by Mrs. Vena Hook, who was appointed to the post of Assistant Supervisor (Midwives). Mrs Hook shortly took up another post in the Department, and the vacancy caused by this was filled by the transfer of Mrs. E. Taylor.

The establishment for health visitors grades II and III was thirteen. The establishment was not completely filled until the latter part of the year, when health visitors undergoing their training had qualified and were able to take up vacancies in the section.

**67****BUILDINGS.**

For some years now, the need for expansion by the building of new clinics, particularly to serve the Parklands and Pangani areas has been greatly stressed. Ngara clinic continues to serve a very wide area, and despite the additions which were made some time ago, the building is still completely inadequate for the districts now being served.

Eastleigh clinic is another building which suffers from overcrowding. It is encouraging, however, to note the vastly growing use made of our clinic services in this area. There is an increasing case for a small satellite clinic being built at Eastleigh. The total attendances at the present clinic are second only to those of Victoria Street, the highest of all clinics. The Eastleigh area, in addition, is becoming more built up and more heavily congested, and the need for decentralisation in this district is becoming more evident.

The greatest need for additional clinic services is in the Parklands area. People from this district now attend at Ngara clinic, which is some distance away, and is very inconvenient both for patients and for health visitors who visit the homes.

In order to relieve the congestion at Ngara clinic, the Medical Officer approached the Committee of the H.H. The Aga Khan Club to ask if it would

be possible to use part of the club premises for clinic purposes. This public-spirited community immediately gave their consent, and a child welfare session on one afternoon a week was begun. Because of its success, the Club Committee had to be approached within two months to ask permission for the holding of a second session. Once more, the Committee immediately agreed. The Department takes this opportunity of expressing its gratitude to this community for their generosity and support.

People in the Pangani area also show a great desire to use our clinic services. They, too, have to crowd into Ngara, and a clinic building to serve these people is becoming more and more essential.

**Ante-natal Welfare.** Ante-natal sessions were held weekly throughout the year for all districts except Sandiford Road. From February 1st onwards, full services were operated at the new Nairobi South clinic, and a single session a month was then found to be sufficient for the Sandiford area.

Attendances for post-natal examination—often combined with the initial check-up of the new baby—increased to an extent which gravely overloaded the ante-natal sessions, and separate sessions were begun at Ngara, Pangani, Victoria Street, Eastleigh and Nairobi South.

Attendances, both initial and repeat, again showed an increase to a total of 8,019 compared with 6,361 in 1957.

Maternal health in the early part of the year was still adversely affected by the 1957 epidemic of Asian influenza. This and other virus infections continued endemic throughout the year, with individual or family recrudescences at intervals of five to eight weeks; but it was evident that succeeding attacks, whether relapse or reinfection, were progressively milder and the intervals between attacks grew longer—apparently a matter of rising personal resistance rather than any fall in virus virulence, since newcomers suffering from a first attack were just as severely affected as those who had their first attack in the original epidemic.

Maternal mortality happily declined during 1958, while the total births rose, giving an overall maternal mortality rate of 0.97 per thousand births.

There were four maternal deaths during the year. Of these four cases, the first three died of conditions which could not readily be foreseen or prevented, and every possible treatment and professional skill was given to them. The fourth case was that of a multipara who had had no ante-natal care and who died on the way to hospital of post-partum haemorrhage and obstetric shock. The midwife and the doctor concerned gave every possible skilled attention and were in no way to blame. The fault lay entirely in the fact that the woman concerned had not troubled to avail herself of ante-natal care or to arrange in good time for the services of a midwife or doctor.

### **Family Planning.**

Weekly sessions were held at Victoria Street clinic by the Medical Officer. Further weekly sessions were held under the auspices of the Nairobi Family

Planning Association at Ngara and Eastleigh. Voluntary practitioners gave consultations at these clinics. Towards the end of the year, however, the attendance of these doctors, because of the increasing commitments of their own practices, became somewhat erratic, and these sessions were taken over entirely by the section.

At the same time, a system of follow-up home visits was begun and carried out by one of the health visitors who attended the family planning clinic sessions. The follow-up system is an extremely important advance.

### **Child Welfare.**

There was a further increase in attendances over 1957, and the total reached 19,343—higher than ever before. New registrations at under a year old were 2,493 and in the 1—5 age group, 1,424. Infant neo-natal deaths were 129 compared with 143 in 1957, and the deaths between one month and one year fell by 8 to 45. Neo-natal deaths represent 4% of all infant deaths. This is almost the same as the figure for 1957, and higher than that for 1956 (63%) which was the year for the Asian 'flu epidemic.

Prematurity continues to predominate as the cause of neo-natal deaths, accounting for 64%. This strengthens the observation first made in 1957 during the Asian 'flu epidemic that such diseases bring pregnancy to a premature termination.

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Unfortunately, there was a sharp rise in deaths related to damage sustained during birth. Fifteen deaths were attributed to intracranial injury, three to heart failure due to distress during labour, and four to prematurity together with intracranial injury. This total is 22, while the figure for 1957 was 8. This rise may be due in part to more accurate certification, but it points to the need for investigation of the standards of midwifery being practised in the city and the desirability of getting satisfactory legislation to control such midwifery practice. Such legislation is not for the conscientious midwife who has a sound knowledge and who has had adequate training. There are many such midwives in the city, but unhappily there are those who are less conscientious and less skilled.

An infant is most vulnerable in the neo-natal period, and the section has long been uneasy about the risk to such infants having to attend overcrowded sessions amongst children of all ages. In addition, it is at this time that the mother is in greatest need of help and advice, and this is time-consuming. To meet these two problems, separate sessions for infants up to three months, together with post-natal examination for the mothers, were begun, and the innovation proved extremely popular.

The toddler health and the pre-school group health was, on the whole, satisfactory, though deaths between one year and five years were still greater than the pre-Asian 'flu level. The total of deaths was thirty two - fourteen lower than that for 1957.

Clinic parties were held in November and December and were, once more, very successful. Our thanks are due to those people who very kindly donated gifts as prizes for the best attendances in the various groups.

### **Immunisations.**

Immunisation sessions against smallpox, diphtheria and whooping cough continued throughout the year, and were well attended. Less emphasis has been placed on the need for protection against the typhoid group, since the incidence of these infections in Nairobi is very low.

### **Home Visiting.**

The home visiting programme went smoothly throughout the year. The total of 64,398 visits was greater than that of any previous year. It should be noted that only successful visits are recorded, and the total does not include visits made when the householder is not found at home.

The exact basis for a child visiting programme is monthly visits to a child under a year and quarterly visits in the years between 1 and 4, and twice yearly visits in the years 4—6, while ante-natal patients should be visited if they have defaulted for two weeks. On this basis, the visits which ought to be done by the section amount to over 104,000—an impossible task with the staff available, but something to aim at.

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### **Health Education.**

Undoubtedly the most important form of health education is the home visit, where health problems can be discussed on the spot and where household problems can be tackled individually. The greatest effort in health education is therefore made in this direction. Secondary endeavours were not neglected. In particular, display cabinets, where models could be shown, were built in each clinic. Mothers are also encouraged, while waiting at clinics, to talk amongst themselves and to join in discussions with the staff about health subjects.

A competition, which has now become an annual event, for the making of children's clothing (wholly by hand) attracted a bigger entry than ever before. The standard of work was extremely high. Entries were judged on workmanship, suitability of the pattern and material, and prizes were given according to age groups for which the garments were made.

### **Training.**

**Health Visitors.** The course of training for the Diploma in Health Visiting (Kenya) went on until May.

In addition to systematic lectures, demonstrations, tutorials etc., visits were arranged to places of general interest in order to give the pupils a background of civic responsibility. The final examinations were held in

June and all four candidates passed. Our thanks are offered to the examiners who so generously gave of their time, knowledge and patience.

**Midwives.** The Refresher Course was omitted this year in favour of a programme of personal tuition given by the Supervisor of Midwives. The midwives themselves were in favour of this, and it would appear from subsequent comments that this plan was greatly appreciated, and in particular, the personal interest which was taken in their problems and in their professional welfare. This course has also produced the significant comment that it is extremely important that a period of teaching in domiciliary midwifery is an essential for the student and should be regarded as part of her curriculum before she is permitted to sit her final examination.

**Indian Maternity Hospital.** Dr. Gaffikin was a member of the Hospital Committee throughout the year and was also on the sub-committee for the furnishing and equipment of the new hospital.

Close co-operation existed throughout the year between the section and the hospital, and the juxtaposition of the hospital and Ngara clinic makes co-operation much easier.

**Midwives and Dais.** Most infants of the Asian community are born at home under the care of midwives or dais who are in private practice, and it is therefore essential that there should be close liaison between the section and these ladies. Happily, it can generally be said that this close liaison does exist, and we are appreciative of the co-operation we receive. There is little doubt that the post of Assistant Supervisor (Midwives) has also gone a long way to bring about this co-operation.

Notification of births and stillbirths was reasonably accurate and seemed to cause less difficulty than in previous years. In some cases record keeping still requires a considerable amount of supervision, but on the whole midwives and dais are co-operative and do their best.

Difficulty is occasionally experienced in keeping up a high standard in the care and use of equipment and of nursing bags, and in the importance of their use.

**Private Maternity Homes.** Frequent visits are paid to the five maternity homes operating in a private capacity, and quarterly visits were made by the Deputy Medical Officer of Health and the Medical Officer in Charge. Three homes showed willingness to co-operate in carrying out recommendations and improvements. The fourth was much less satisfactory—perhaps owing to the illhealth of the midwife in charge. This particular home has deteriorated greatly. The fifth home was enlarged at the beginning of the year, but the organisation and staffing were entirely inadequate and the home was not run in a satisfactory manner. If 1959 produces no better results, it will be found necessary not to recommend the licence.

**General.** Various groups of students from educational institutions such as Jeanes School, the Royal Technical College, and probationary nurses from the European Hospital, attended clinic sessions to get an insight into positive

health and preventive aspects of medical work. The Section is always willing to help such groups.

The criticism most often levelled at preventive as opposed to curative health services is that in preventive medicine there are never any visible results. This is a short-term and short-sighted view. In concluding the report for the year 1958, it is not inappropriate to look back at the report for 1948, and by comparison over the decade to arrive at some degree of long-term appraisal. In tabular form, these are the chief totals—

### Clinic Activities.

#### Ante-natal Welfare:

							1948	1958
Attendances	..	..	..	..	..	..	6,715	8,024
New registrations	..	..	..	..	..	..	1,504	2,093

#### Child Welfare:

Attendances	..	..	..	..	..	..	9,691	19,343
New registrations—								
0—1 year	..	..	..	..	..	..	1,101	2,484
1—5 years	..	..	..	..	..	..	862	1,424
Home visits	..	..	..	..	..	..	9,977	64,398

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#### Vital Statistics.

							1948	1958
Asian Population	..	..	..	..	..	..	42,000	90,000
Asian Population (females)	..	..	..	..	..	..	16,800	42,000
Births	..	..	..	..	..	..	2,282	4,113
Stillbirths	..	..	..	..	..	..	84	109
Stillbirths per 1,000 births	..	..	..	..	..	..	36	25
Infant deaths under 1 year of age	..	..	..	..	..	..	151	174
Infant mortality per 1,000 live births	..	..	..	..	..	..	67	43

In these figures can be seen evidence of the progress in the size and effectiveness of the Asian Maternity and Child Welfare Section, and in public response to its efforts, though the extent of that response is still not as great as could be wished; and, most important though least obvious, in the improved pattern of Asian child life. In 1948, the Asian female population was 16,800. Assuming, for purposes of comparison, that one-third were women of child-bearing age, there were 5,600 potential mothers of whom 42% actually produced a child during the year. At this birth rate there would be a new baby in every family by the end of  $2\frac{1}{3}$  years. But of these infants 67 in every thousand died before the age of twelve months. In 1958, there were 42,000 females, and using the same basis for estimation, 14,000 of them could produce an infant but only

4,113 or 29% in fact did so. At this birth rate there would be a new baby in every family by the end of 3½ years: and only 43 per thousand of these better-spaced infants would fail to reach the first birthday. In effect, Asian babies are now arriving in less of a hurry, healthier when they do arrive and more likely to remain alive. That is real progress.

## STATISTICAL RECORD

### Ante-Natal Welfare

	Ngara	Pangani	Victoria Street	Eastleigh	Sandiford Road	Nairobi South	Parklands	Total
Sessions ..	52	52	51	79	15	49	—	298
Attendances ..	2,137	1,507	1,316	2,357	108	399	—	8,024
New registrations ..	522	383	463	577	31	117	—	2,093

### Child Welfare

Sessions ..	52	54	85	100	15	56	66	428
Attendances ..	3,556	2,990	5,288	3,858	517	1,444	1,690	19,343
New registrations ..								
0—1 year ..	432	483	618	586	48	163	154	2,484
1—5 years ..	214	202	529	213	19	111	136	1,434

### Family Planning

Attendances ..	89	26	100	113	—	14	—	342
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### Immunisations

Vaccination ..	548	643	1,045	1,106	205	193	216	3,956
Diphtheria/wh. cough ..	576	599	967	509	285	533	227	3,696
Diphtheria ..	12	—	1	2	—	11	—	26
T.A.B. ..	22	61	58	741	94	95	33	1,104

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### Health Education

Attendances (at classes, etc.) ..	131	204	268	259	12	28	38	870
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### Home Visits

Supervisor ..	—	—	—	—	—	—	—	133
Asst. Supervisor (Midwives) ..	—	—	—	—	—	—	—	428
Health Visitors ..	9,735	13,345	15,573	12,987	1,669	5,406	4,714	63,429
H. V. for Family Planning ..	—	—	—	—	—	—	—	181
Students ..	83	24	—	—	94	26	—	227

**Comparative Figures 5 Year Period**

				1954	1955	1956	1957	1958
<b>Ante-Natal Welfare</b>								
Attendances ..	..	..	..	5,453	5,712	6,286	6,361	8,024
New registrations ..	..	..	..	1,518	1,607	1,889	1,782	2,093
<b>Child Welfare</b>								
Attendances ..	..	..	..	12,686	14,738	16,639	17,991	19,343
<b>New registrations:</b>								
0—1 year ..	..	..	..	1,417	1,741	2,266	2,326	2,484
1—5 years ..	..	..	..	1,152	900	1,474	1,282	1,424
<b>Home Visits</b>								
All staff ..	..	..	..	17,107	21,081	39,258	55,552	64,398
<b>Total Attendances</b>								
All ages, all clinics ..	..	..	..	22,703	26,072	32,433	32,438	37,361
<b>Notification of Births</b>								
				Live Births	Stillbirths			
74	Midwives ..	..	..	1,923	40			
	Dais ..	..	..	737	11			
	Indian Maternity Hospital ..	..	..	565	21			
	Ideal Nursing Home ..	..	..	238	8			
	Sunshine Nursing Home ..	..	..	109	1			
	Janet Miranda's Maternity Home ..	..	..	198	5			
	Nairobi Nursing Home ..	..	..	80	5			
	H.H. Aga Khan Platinum Jubilee Hospital ..	..	..	34	—			
	Mrs. Bedier's Nursing Home ..	..	..	77	—			
	Alice Beaton Nursing Home ..	..	..	17	1			
	African Maternity Hospital ..	..	..	4	—			
	Princess Elizabeth Hospital ..	..	..	2	—			
	King George VI Hospital ..	..	..	1	—			
	Radiant Health Clinic ..	..	..	2	—			
	Doctors' cases ..	..	..	9	—			
	African Midwives ..	..	..	5	—			
	Unattended ..	..	..	3	—			
	Stillbirths not notified ..	..	..	—	17			
				<hr/> 4,004	<hr/> 109			

### Mortality Rates

Maternal deaths .. .. .. .. .. .. .. ..	4
Maternal mortality rate (per thousand births) .. .. .. ..	0.97
Infant deaths (under 1 year old) .. .. .. .. ..	174
Infant mortality rate (per thousand live births) .. .. ..	43.45

### Causes of Stillbirths

Ante-partum haemorrhage .. .. .. .. .. ..	9
Born before arrival of midwife .. .. .. .. ..	2
Breech delivery; delay of head .. .. .. .. ..	5
Fœtal abnormality .. .. .. .. .. ..	5

### Fœtal asphyxia:—

arms round neck .. .. .. .. .. ..	1
cord round neck .. .. .. .. .. ..	3
impacted shoulders .. .. .. .. .. ..	1
prolapsed cord .. .. .. .. .. ..	1
true knot in cord .. .. .. .. .. ..	1
Fœtal distress .. .. .. .. .. ..	2
Intracranial injury (failed forceps and Cæsarian section) .. .. ..	1

### Maternal illness—

diabetes .. .. .. .. .. .. .. ..	3
electric shock .. .. .. .. .. ..	1
malaria .. .. .. .. .. .. .. ..	2
nephritis .. .. .. .. .. .. .. ..	1
toxæmia of pregnancy .. .. .. .. .. .. .. ..	13
Placenta prævia .. .. .. .. .. .. .. ..	4
Prematurity .. .. .. .. .. .. .. ..	23
Prolonged labour .. .. .. .. .. .. .. ..	1
Unknown causes .. .. .. .. .. .. .. ..	29
Version following impacted breech .. .. .. .. .. .. .. ..	1

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**Causes of Death—Asian children under five years.**

			Under 1 month	1 month—1 year	1—5 years
Anæmia .. .. ..	..	..	—	—	2
Asphyxia—choked on sweet .. .. ..	..	..	—	—	1
,, —drowned .. .. ..	..	..	—	—	1
,, —following regurgitation of feed .. .. ..	..	..	1	—	—
,, —inhaled nut .. .. ..	..	..	—	—	1
Atelectasis .. .. ..	..	..	3	—	—
Asphyxia Neonatorum .. .. ..	..	..	3	—	—
Broncho-pneumonia .. .. ..	..	..	6	—	—
Cirrhosis of liver .. .. ..	..	..	—	—	1
<b>Congenital deformity—</b>					
Anencephalic .. .. ..	..	..	1	—	—
Abnormality of kidneys and bladder .. .. ..	..	..	1	—	—
Heart disease .. .. ..	..	..	1	—	1
Hydrocephalic .. .. ..	..	..	1	1	—
tracheo-oesophageal fistula .. .. ..	..	..	1	—	—
Diphtheria .. .. ..	..	..	—	—	1
Fibrocystic disease of pancreas .. .. ..	..	..	—	—	1
Gastro-enteritis .. .. ..	..	..	5	15	6
Heart failure following foetal distress .. .. ..	..	..	3	—	—
Hæmolytic disease of the new-born .. .. ..	..	..	2	—	—
Intracranial injury .. .. ..	..	..	15	—	—
Intestinal obstruction .. .. ..	..	..	—	—	1
Malaria and influenza .. .. ..	..	..	—	1	—
Marasmus .. .. ..	..	..	—	1	—
Meningitis .. .. ..	..	..	—	1	1
Paralytic ileus .. .. ..	..	..	1	1	—
Pneumonia .. .. ..	..	..	—	18	7
Pneumonia and anæmia .. .. ..	..	..	—	1	1
Pneumonia and gastro-enteritis .. .. ..	..	..	—	2	1
Pneumonia and measles .. .. ..	..	..	—	—	1
Prematurity .. .. ..	..	..	41	—	—
<b>Prematurity complicated by—</b>					
asphyxia .. .. ..	..	..	1	—	—
atelectasis .. .. ..	..	..	4	—	—
broncho-pneumonia .. .. ..	..	..	9	—	—
gastro-enteritis .. .. ..	..	..	3	—	—
intracranial injury .. .. ..	..	..	4	—	—
<b>Maternal illness—</b>					
acute yellow atrophy .. .. ..	..	..	1	—	—
ante-partum haemorrhage .. .. ..	..	..	6	—	—
(2 placenta prævia and Caesarean Section) 4 placenta prævia) .. .. ..	..	..	—		
multiple injuries .. .. ..	..	..	1	—	—
pyelitis .. .. ..	..	..	1	—	—
syphilis .. .. ..	..	..	1	—	—
toxæmia of pregnancy .. .. ..	..	..	8	—	—
Version for malpresentation .. .. ..	..	..	1	—	—
Tetanus .. .. ..	..	..	—	2	—
Traffic accident .. .. ..	..	..	—	1	3
Tracheo-bronchitis .. .. ..	..	..	—	1	—
Septicæmia .. .. ..	..	..	—	—	2
Unknown causes .. .. ..	..	..	3	—	—
Uraemia .. .. ..	..	..	—	1	—

**AFRICAN MATERNITY  
AND CHILD WELFARE****STAFF**

There have been many changes in African staff during the year due to sickness, resignations for marriage, pregnancies, transfers and unsuitability, and during no single month of the year have the established posts been up to full strength, the main turnover being in scales 19 and E, as might be expected.

This has made it extremely difficult to run the clinics as smoothly as is desirable and, in particular, it has not been possible to carry out a staff teaching programme beyond individual tuition in clinics.

**REVIEW OF ACTIVITIES****Clinics.**

No new clinics were opened, and two pilot scheme clinics in Parklands residential area were closed. This was done with great regret as it is evident that there is a real and growing need for welfare work among the now very numerous wives and children of African servants all over the residential areas of Nairobi.

The clinic at the Maharashtra Club, Parklands, was very popular, particularly as regards ante-natal work, but home visiting was not practicable. It was felt that these clinics were being used more as minor dispensaries than as welfare clinics, and that the energies of the staff could be directed with more effective results in the purely African areas.

Clinics are now settling into their true perspective, with the Municipal clinics in new residential areas coming into full use.

Mbotela clinic was officially opened by the Acting Governor in January. It was a welcome change to work in the new building compared with the houses which had been used for clinic sessions during the previous two years.

Ofafa clinic doubled its numbers in the last two months of the year and is now overloaded. This has been caused by the building of the new housing estate in what has been termed Ofafa II. This overcrowding points to the necessity for opening another clinic in the Ofafa II estate at the earliest possible moment.

Bahati clinic caters for the residents of Bahati estate and of Makadara, whose population is now demanding better services and, in particular, a midwifery service. It is not ideal for Makadara to use Bahati, but this arrangement will have to remain until a clinic can be built for the residents of Makadara.

Unfortunately, home visiting is not possible in this estate, and this means that a very important part of our work is lacking. It is becoming more evident, however, that we should expand our services in Makadara as the population is becoming more static.

Of the Railway clinics, Muthuruwa, the oldest, is still the most popular, although the lowest paid employees live in this estate and also many single men.

In Makongeni there is mainly family housing, and this probably represents the most stable Railway population and the population in the best type of housing.

Liverpool Road still presents a difficulty, and the population appear to be backward and unstable. They come mostly from Nyanza, and there is much coming and going in this area.

## GENERAL ACTIVITIES

Most clinics have maintained their average numbers with usual seasonal variations. The peak period is in June-July, with a secondary one in October-December.

There are three notable exceptions, in ascending order; Mbotela, Pumwani and Ofafa. These clinics have all shown substantial increases in attendances, and Ofafa has trebled its attendances during the last quarter of the year.

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As an experiment, three clinics were put in the sole charge of senior staff. At Pumwani, Mrs. M. Annan has been in charge for some considerable time, and has done outstanding work. As yet, it is too early to report on the results in the other two clinics.

Emphasis has been laid on home visiting and teaching in the clinics to small groups of mothers, with demonstrations in baby care and simple home cookery. There has been much interest in the latter, and mothers are now making good use of the age-group diet sheets issued at all clinics, and the dried milk on sale, which is increasingly popular.

Attendances for milk .. .. ..	37,536.
Dried milk used .. .. ..	1,939 lbs.
Dried milk sold .. .. ..	4,602 lbs.

Vaccinations .. .. .. ..	3,042
T. A. B.'s given .. .. .. ..	2,698
Medical Officers' examinations .. .. ..	27,099

It is noteworthy that although the total number of attendances at all clinics is less than last year, the Welfare Clinics show an increase in anti-natal and total child welfare attendances; new cases in the child welfare section were down, but transfers from I. W. to P. S. sections were up, indicating a steadier follow-up of children. The biggest drop was in dispensary attendances, which was anticipated with the opening of the Health Centres, and is welcomed.

Liaison with other medical departments, Municipal and Government, has been maintained satisfactorily. It is pleasing to report that at clinics which are near Health Centres, dispensary attendances are already decreasing, but that they appear to have no unfortunate effect on welfare attendances.

During 1959 it is hoped to offload all the dispensary work from the welfare clinics to Health Centres. This will present a considerable task, but it is only right that Health Centres should take the burden of sick children from the clinics, and that the clinic staff should be able to devote any time thus saved to their true work.

The lack of telephones in clinics (and other medical places) creates great difficulty and prevents smooth running in all medical departments. Nowadays a satisfactory liaison between different medical services, for example, ambulances and Health Centres, cannot be adequately achieved without telephones. The lack of them leads to very great additional expense in transport etc., and their instalment is one of the most urgent needs at the moment.

## LABORATORY TESTS

Khan specimens .. .. .. .. .. .. ..	3,931
Cervical smears for G. C. .. .. .. .. .. .. ..	3,620
Blood slides for Malaria .. .. .. .. .. .. ..	11,113
Stools for helminths .. .. .. .. .. .. ..	4,982
Total red blood counts and haemoglobin estimations = ..	629

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### Malaria

There is a relatively high proportion of positive blood slides at Mbotela and the E. A. R. & H. estates of Muthurwa, Makongeni and Liverpool Road. This is probably due to a constant coming and going from Nyanza of wives and families. Mbotela may need more investigation, as the residents are more mixed and include a lot of Kikuyu people who are not so likely to acquire infection in their reserve.

### Syphilis (as indicated by + Khan tests)

The highest proportion of + Khans is surprisingly at the P. & T. Clinic, but this clinic includes some company housing, and the proportion which can be put down to Government estates is being worked out. Bahati and Pumwani are the other two fairly high areas, as might be expected.

### Ascariasis

Taking ascariasis infection as an indication of defective sanitary conditions and habits, it is not surprising to note that Pumwani and Liverpool Road head the list, and Mbotela comes next; but Kaloleni as an old established and rather show village has a regrettably high incidence. Probably a good deal of this is due to failure to arrange for suitable accommodation for small children in public conveniences, particularly if they are left in charge of "ayahs" very little bigger than themselves, while mother goes to work.

## MEDICAL ASPECTS

No major epidemics have been reported during the year. There have been the usual seasonal coughs and colds, bronchitis, bronchopneumonia and gastro-enteritis, with measles, chickenpox and whooping cough. A few sporadic cases of poliomyelitis and smallpox have also occurred.

Total ear treatments given at Kaloleni referred from all clinics—1,900.

Total T. B. case attendances at all clinics for PAS/INAH, milk and cod liver oil=747 (an average of 62 per month).

Mothers are increasingly using the Health Centres for themselves and their children, and there is growing liaison between them and our clinics, with a two-way stream of patients and convalescents to be followed up. This, with our connections with the African Maternity Hospital and the Nursery Schools, should form a close network of health care and education in the African residential areas.

## SANITATION AND HOUSING

Generally speaking, any comments on sanitation and housing must follow much the same pattern as in previous years.

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Government and High Commission housing estates are invariably tidy and clean and well looked after. The internal condition of the houses varies considerably, but on the whole the people are clean and tidy. This may well be a reflection, to some extent, of the excellent way in which the estates externally are maintained and looked after by Government and the High Commission.

Council estates vary a lot. Kariokor is still a filthy estate and unsatisfactory in every way, and its only virtue lies in the fact that it does provide some accommodation, however bad, when there is a most pressing need. It must be tolerated so long as this great need exists and so long as its demolition is ensured in the not too distant future as part of an overall housing programme. The same comments apply to Pumwani.

It is more than pleasing to report a vast improvement in Bahati, largely due to the laying of a good road, the relaying of many of the stone drains and the laying of sewers. This estate has for long required and deserved these attentions. Mbotela is another estate which has been improved and which is now more habitable.

The new estates which are being built (mainly by joint Central Government and City Council action) are vastly improved from previous estates. The contrast is most apparent at Ofafa. The houses which have just been built are pleasing in appearance and are well looked after. The inhabitants are of a good educational standard and are making full use of welfare facilities.

The houses of old Ofafa present a poor appearance and are generally badly looked after. The population is much less static than that of the new Ofafa.

The housing built by private employers still presents the greatest difficulties in every way. Most of this housing is filthy, badly looked after and overcrowded (though the owners are in many cases not responsible for the last evil) and little supervision is given to them. There are, of course, exceptions to this, but they are few and far between.

## **NURSERY SCHOOLS**

Comparatively little work has been carried out on Nursery Schools this year, owing to illness, shortages and changes in medical staff and a fair amount of disorganisation in the City Council schools' staff as well.

## **DISTRICT MIDWIFERY**

Through the year every endeavour was made to expand the district midwifery service. It is not easy, however, to get good midwives to take up this work.

	Kariokor	Pumwani	Muthururwa	Kaloeni	Makongeni	Masesha	Bahati V.	Bahati P.W.D.	Liverpool Road	Mbotela	Opara	TOTAL				Forest Road (to 30.11.58)	1951	1952	1953	1954	1955	1956	1957	1958			
												1951	1952	1953	1954												
<b>Ante-natal and Post-natal.</b>																											
New cases.	419	596	363	284	277	203	169	583	171	358	271	202	300	2,098	2,194	1,639	1,845	2,540	2,591	3,702	4,196						
Births at home.	180	233	161	130	115	73	220	65	137	119	70	21	491	803	532	432	717	878	1,483	1,636							
Births in hospital	115	153	87	80	37	39	27	132	33	89	28	27	97	231	363	324	334	570	655	727	944						
Post-natal	..	48	110	127	126	55	50	57	29	55	23	53	16	—	—	—	—	—	—	—	—	834					
Total attendances	..	1,513	1,690	1,295	864	976	640	462	1,811	411	1,097	772	574	858	5,448	5,492	4,447	4,936	7,341	7,838	11,144	12,963					
<b>Infant Welfare</b>																											
0-1 year new cases	168	198	268	184	224	173	85	224	103	148	156	178	121	1,888	1,696	1,543	1,716	2,521	2,572	3,368	2,230						
1 year transfers to P.S. Register	..	94	88	107	133	84	93	55	72	74	55	79	42	—	363	429	249	365	559	791	976						
1-5 years new cases	..	136	191	211	208	205	177	109	142	127	110	154	233	95	2,283	1,753	1,259	2,318	2,408	2,765	3,175	2,098					
Total attendances	..	4,509	5,058	4,246	4,696	3,641	3,581	2,314	3,908	2,151	2,580	3,111	2,670	761	37,673	25,908	13,626	19,722	28,983	32,622	39,517	43,226					
<b>Home Visits</b>																											
3y Health Visitors	..	810	65	275	800	162	81	644	972	201	623	1,018	1,137	—	4,751	3,609	576	769	3,992	6,479	5,885	6,788					
3y African Assistants	..	2,852	2,685	2,521	3,594	854	1,206	2,865	1,809	1,453	1,399	1,466	2,044	—	22,343	16,660	3,880	1,869	13,094	20,479	22,183	24,748					
Total	..	..	3,662	2,750	2,796	4,394	1,016	1,287	3,509	2,781	1,654	2,022	2,484	3,181	—	27,094	20,269	4,456	2,638	17,086	26,958	28,068	31,536				
<b>Dispensary</b>																											
Women—new cases	..	330	653	417	279	335	234	110	563	211	228	235	129	334	2,293	2,276	1,840	2,263	2,385	2,471	3,989	4,058					
Women—repeat cases	..	958	1,629	809	634	574	625	283	1,236	728	317	516	335	441	13,938	14,132	5,378	6,531	4,539	4,912	8,410	9,085					
Children—new cases	..	1,143	1,616	1,440	1,190	1,238	1,203	697	1,395	864	1,227	777	242	8,341	8,457	6,592	8,776	11,630	13,001	14,915	13,596						
Children—repeat cases	..	3,498	7,380	4,591	7,095	6,568	2,848	5,059	3,480	1,820	5,749	2,966	407	53,702	52,829	32,226	58,555	54,317	52,583	61,428	57,386						
Attendances for tonics..	797	1,028	853	761	708	686	139	747	947	150	954	175	252	—	2,716	5,270	8,506	8,417	9,465	11,297	8,197						
Total attendances	..	6,726	12,306	9,434	6,794	10,450	9,416	4,077	9,000	6,230	3,079	8,681	4,382	1,676	78,274	80,410	51,306	84,631	81,288	82,432	100,039	92,062					

District midwives now serve the following areas:—

- (i) Pumwani, Kariokor, Starehe, Ziwani (there is also a midwife in private practice in this area);
- (ii) Muthuruwa;
- (iii) Kaloleni;
- (iv) Makongeni, Maesha, Liverpool Road (two midwives)
- (v) Posts and Telegraphs estate, High Commission, D.C.'s houses, and company housing;
- (vi) Ofafa;
- (vii) Mbotela and Makadara;
- (viii) Bahati and Ministry of Works housing.

There were nine midwives under Council control and there was 1 in private practice.

Three outstanding facts emerge from district midwifery in 1958:

- (1) The increasing demand for domiciliary midwifery in Pumwani and district and the readiness of the women to attend ante-natal and post-natal clinics. In Pumwani and area there is one African private midwife and one Municipal midwife, who has more cases than she can efficiently cope with. Rose Njeri has done good work and is obviously very popular, but there is a limit to the number of cases which can be dealt with by one person. This it is hoped to remedy by the opening of a small clinic at Shauri Moyo and the establishment of a district midwife there early in 1959.
- (2) The moving of good class African residents to the new housing estate at Ofafa. This has resulted in an enormous increase in the ante-natal attendances in the last two months of this year, and it has already been necessary to appoint a midwife for this district, which was previously quite easily worked with Mbotela.
- (3) The demand of Makadara residents for ante-natal and domiciliary midwifery services. This has been met by holding ante-natal clinics at Bahati for Makadara women and by counting Makadara with Mbotela for the midwife's services. But it can only be a temporary and not very satisfactory measure, as no visiting or regular children's clinics can be undertaken and cases cannot be followed up. A great opportunity will be lost if a clinic at Makadara cannot soon be opened. This is one of the most outstanding needs for the immediate future.

## DETAILS OF DISTRICTS AND ANALYSIS OF CASES

### Pumwani.

Miss Rose Njeri all the year.

Districts:	Bondeni	..	..	..	..	..	8
	Starehe	..	..	..	..	..	29
	Kariokor	..	..	..	..	..	9
	Gorofani	..	..	..	..	..	10
	Pumwani	..	..	..	..	..	131

### To African Maternity Hospital:

- 9 delayed labour.
- 1 early rupture membranes.
- 1 blue asphyxia.
- 1 pyrexia.
- 1 old Caesarean Section.
- 1 transverse lie.
- 1 hydrocephalus.
- 1 cord round neck.

### Normal and dead:

- Normal delivery. Child died within 24 hours. Police case.
- Normal delivery. Child jaundiced, died in K. G. IV Hospital.

### Abnormal and dead:

- Stillbirth—midwife called too late. Foetal heart not heard on arrival.

### Muthuruwa.

Mrs. Lois James until 1st December, then Mrs. Beth Kimani.

Districts: All in Muthuruwa.

Total deliveries=94.

### To African Maternity Hospital—

- 6 delayed labour.
- 1 prolapsed cord.
- 1 hare lip.
- 1 forceps delivery.
- 1 premature baby.
- 1 breech presentation.

### Normal and dead:

Twins—1st born before arrival alive.

2nd breech with undelivered head. Midwife called too late.

## Kaloleni.

Mrs. Delina Heron until 2nd February, then Mrs. Beth Kimani.

Districts:	Kaloleni	..	..	..	..	101
	Shauri Moyo	..	..	..	..	9
	Makongeni	..	..	..	..	1
	Muthuruwa	..	..	..	..	5

To African Maternity Hospital—

- 1 breech presentation.
- 1 delayed labour.
- 2 P. P. H.
- 1 forceps delivery.
- 1 hydrocephalus.
- 1 persistent bleeding torn cord.

## Normal and dead:

Breech delivery—midwife called too late to deliver head.

## E. A. R. & H. Estates. (two district midwives).

(1) Miss Mary Salome Solomon all year.

Districts:	Liverpool Road	..	..	..	..	67
	Makongeni	..	..	..	..	31
	Maesha	..	..	..	..	44

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To African Maternity Hospital—

- 7 delayed labour.
- 1 cord round neck.
- 1 P. P. H.
- 1 A. P. H.
- 1 prolapsed cord.
- 1 "worried father".

(2) Miss Elizabeth Njeri to 19th March.

Miss Mary Salome Solomon 19th March to 19th May.

Mrs. Mary Reuben from 20th May.

Districts:	Makongeni	..	..	..	..	67
	Maesha	..	..	..	..	12
	Kaloleni	..	..	..	..	1
	Muthuruwa	..	..	..	..	1

To African Maternity Hospital—

2 A. P. H.

- 3 delayed labour.
- 1 full bladder.
- 1 premature twins.

## **Post and Telegraphs.**

Mrs. Mary Agnes Waryaki to 8th June.

Miss Rose Mutheri 9th June to 1st December.

Mrs. Rachael Wambui from 1st December.

Districts:	P. & T.	..	..	..	..	58
	D. C. Housing	..	..	..	..	20
	Company Housing	..	..	..	..	15
	High Commission	..	..	..	..	6
	Makadara	..	..	..	..	2
	Bahati	..	..	..	..	5
	Ofafa	..	..	..	..	5
	Mbotela	..	..	..	..	3

## To African Maternity Hospital—

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- 1 shoulder presentation.
- 5 delayed labour.
- 1 brow presentation.
- 2 breech presentation.
- 1 persistent posterior presentation.
- 1 P. P. H. twin delivery.
- 1 hydrocephalus.
- 2 forceps delivery.
- 1 anaemia.
- 1 request for African Maternity Hospital.

## **Bahati.**

Miss Naomi Phineas to 15th December.

Miss Purity Wanjiku from 16th December.

Districts:	Bahati	..	..	..	..	157
	P. W. D.	..	..	..	..	36
	Ofafa	..	..	..	..	1
	Makadara	..	..	..	..	4

To African Maternity Hospital—

16 delayed labour.  
1 prolapse of cervix.  
3 breech presentation.  
2 P. P. H.  
3 forceps delivery.  
1 complete perineal tear.  
1 premature twins.  
2 A. P. H.

**Abnormal and alive:**

Congenital hypospadias to King George VI Hospital.

Atelectasis to King George VI Hospital.

Face presentation, premature.

**Abnormal and dead:**

Prolapse of cord, self-delivery. Midwife called too late.

2 stillborn macerated foetus.

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**Mbotela, Ofafa and Makadara.**

These districts were at first combined with one midwife. From 1st. December it was found necessary with the increased number of residents at Ofafa, to make this a separate district.

Districts:	Mbotela	..	..	..	..	78
	Ofafa (to Dec. 1st.)	..	..	..	..	32
	Makadara	..	..	..	..	10
	P. & T.	..	..	..	..	5

To African Maternity Hospital—

1 A. P. H.  
5 delayed labour.  
1 breech presentation.  
1 face presentation.  
1 shoulder presentation.  
1 premature twins.

### **Normal and dead:**

Stillbirth—Midwife called too late.

Ofafa from December 1st (Miss Rose Muthoni)

Ofafa .. .. .. .. .. 10

P. & T. . . . . 1

## To African Maternity Hospital—

1 A. P. H.

1 delayed labour.

Kariokor.

Mrs. Ruth Elikani, private midwife.

Reported African cases .. .. 101

Details not available.

District	Normal living child	Normal dead child	Abnormal living child	Abnormal dead child	To A. M. H.	Total	P. N. E.	B. B. A.	Infant Deaths	Maternal Deaths
<b>Pumwani</b>	173	2	—	1	16	192	48	4	3	—
<b>Muthuruwa</b>	93	—	—	1	11	105	45	5	1	—
<b>Kaloleni</b>	108	1	—	1	6	116	30	1	2	—
<b>Makongeni</b>	74	—	—	—	7	81	23	2	—	—
<b>Liverpool Road</b>	129	—	—	—	13	142	33	1	—	—
<b>Bahati</b>	162	—	3	3	30	198	15	7	3	—
<b>Posts and Telegraphs</b>	96	—	—	—	18	114	23	3	—	—
<b>Mbotela</b>	118	1	—	—	7	126	16	7	1	—
<b>Ofafa</b>	7	—	—	—	2	9	—	—	—	—
<b>TOTAL</b>	960	4	3	6	110	1,083	233	30	10	—

### **Number of Visits by Supervisor**

Total Visits Not Seen Gone to Reserve Overcrowded Wrong Address Hospital Visits.

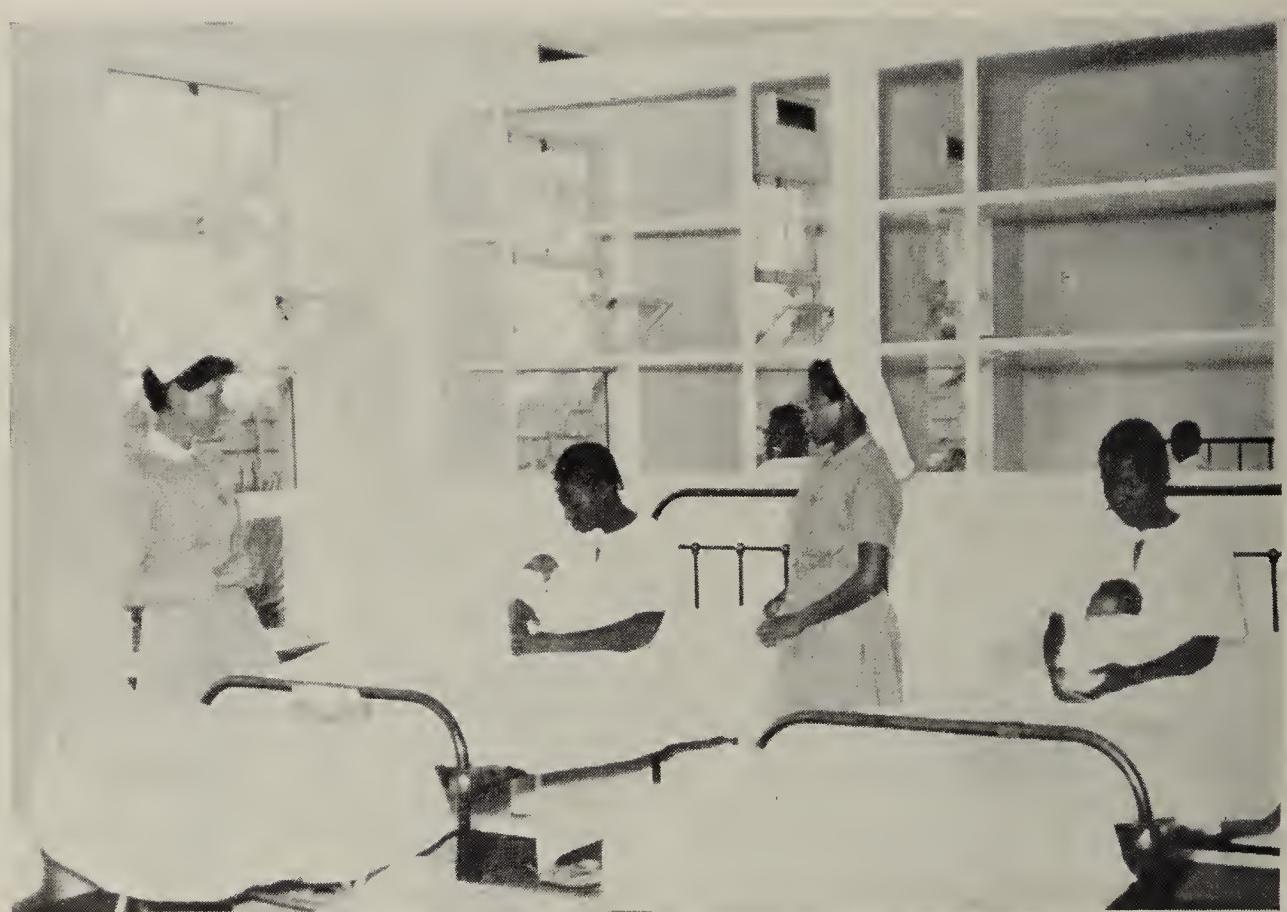
906      97      20      155      33      324

Private Midwife

Mrs. Ruth Elikani

101 African cases





*A Ward in the African Maternity Hospital*

## AFRICAN MATERNITY HOSPITAL

### Staff

The hospital suffered severely as a result of the resignation of Dr. P. Anderson early in the year. She had done some very fine, conscientious work at the hospital and was greatly missed when she left. On her departure, Dr. Yusef Eraj came to the rescue and gave of his excellent services in the succeeding months. The Department wishes to express very sincere thanks to Dr. Eraj for his exceptional help during this period as it would have been well-nigh impossible to have run the hospital without his assistance. Mr. C. J. Goosen took up his appointment as Medical Superintendent in August.

The hospital also lost the services of Miss T. Wenzel who was the Sister Tutor, and had done some excellent work in teaching the students.

### Training

All the trainees who sat for the final examination were successful.

Considerable thought was given to the training of pupils. The training period is still one of two years, and no provision is made for training in district midwifery. It is felt that it is desirable for the training to be extended to two and a half or three years, but more important still, that a six month period of training in district midwifery should be compulsory and should be a condition for trainees being permitted to sit the final examination.

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These points were made to the Nurses' and Midwives' Council some time ago, but the Council appeared unwilling to support the City Council officially in any efforts which it wished to make in improving the training along these lines.

It is agreed that there is no fixed period for training laid down, and that in Nairobi midwifery training could be included in the programme. It is felt, however, that it would be to the advantage of all, and that it would give greater authority, if official support from the Nurses' and Midwives' Council were given to the institution of these alterations in the present scheme of training.

An endeavour is made to select candidates very carefully, but even so, the standard of candidate is not always very satisfactory. There is evidence, however, that there has been some slight improvement in the general educational standard and mental ability of practitioners during the past two or three years.

It is essential, however, that every effort should be made to get girls of high moral fibre and high educational standard for training as midwives, as many of them eventually go out to work amongst their people where they should be outstanding examples in their community. Quality rather than quantity is desirable.

## **General Work.**

There was close co-operation with other sections—indeed, the liaison between the Maternity and Child Welfare Section and the hospital was probably stronger than it has ever been.

The Medical Superintendent has given much time to lecturing staff of other sections of the Department, and in particular the staff of the African and Asian Maternity and Child Welfare Sections, with undoubted advantage to all.

One of the major improvements carried out during the last part of the year was the establishment of a premature infant unit. The premature birth rate had been extremely high, and Mr. Goosen, soon after his arrival, made strenuous and successful endeavours to reduce it.

If the international definition of prematurity is used (i.e. a baby weighing  $5\frac{1}{2}$  lbs. or less at birth), it means that there were 336 premature births during the year, or 13% of all live births.

The mortality rate during the first nine months of these babies was 54%, but as a result of the establishment of the premature unit, this was reduced in the last three months to 12%.

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The real answer to prematurity lies in its prevention and the prevention of premature labour. Some research is being done at the hospital into this at the moment, and it is hoped that a publication of facts may be made in the future.

A further step towards the elucidation of many of the problems presenting themselves at the hospital was taken by the reconstruction of the post mortem room. The value of post mortem examination cannot be over emphasised. Every endeavour is now being made to perform post mortem examinations at the hospital in order to find the exact cause of death, especially in prematurity.

In all modesty, it is thought that it can be said that the standard of the hospital has markedly improved during the past two years and that the standard of obstetrics has also improved.

There are still many problems which offer an exciting challenge to those working in the hospital. These are associated with the health of the African, the standard of nutrition, general cultural and social standards, and the whole environmental background. Much work still has to be done, but it is hoped that with a suitable and interested staff much work will be achieved in the coming years.

## Hospital Statistics

Total Admissions ..	..	..	..	..	..	3,159
Births ..	..	..	..	..	..	2,735
Stillbirths ..	..	..	..	..	..	136
Maternal Deaths ..	..	..	..	..	..	9
Deaths Neo-natal ..	..	..	..	..	..	122
Operations ..	..	..	..	..	..	259
Born Before Arrival ..	..	..	..	..	..	125
Abnormal Presentations ..	..	..	..	..	..	148
Twins ..	..	..	..	..	..	66
Triplets ..	..	..	..	..	..	1
Prematures ..	..	..	..	..	..	336

### Ante Natal Clinics

Number of clinics held ..	..	..	..	..	..	254
Attendances ..	..	..	..	..	..	13,122

### Post Natal Clinics

Number of clinics held ..	..	..	..	..	..	51
Attendances ..	..	..	..	..	..	555

### Admissions

Resident ..	..	..	..	..	..	2,310
Non-resident ..	..	..	..	..	..	849
Total ..	..	..	..	..	..	3,159
Discharges ..	..	..	..	..	..	3,150
Patients in hospital on 31st December, 1958 ..	..	..	..	..	..	67
Patient Days ..	..	..	..	..	..	20,207
Baby Days ..	..	..	..	..	..	17,780

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### Stillbirths

#### Causes:

#### Anoxia:

A. P. H. ..	..	..	..	..	..	20
Prolapsed Cord ..	..	..	..	..	..	8
Obstructed Labour ..	..	..	..	..	..	8

#### Congenital Abnormalities:

Hydrocephalus ..	..	..	..	..	..	4
Anencephaly ..	..	..	..	..	..	7
Other ..	..	..	..	..	..	4
Cerebral Injuries ..	..	..	..	..	..	11
Difficult Forceps ..	..	..	..	..	..	1
Breech ..	..	..	..	..	..	5
Craniotomy ..	..	..	..	..	..	1
Ruptured Uterus ..	..	..	..	..	..	1
Macerated Foetus ..	..	..	..	..	..	17
Prematurity (Immaturity)—cause unknown ..	..	..	..	..	..	21
P. E. T. ..	..	..	..	..	..	3
Eclampsia ..	..	..	..	..	..	2
Maternal Sepsis ..	..	..	..	..	..	1
Malaria ..	..	..	..	..	..	1

**Neo-natal Deaths.**

Prematurity .. .. .. .. .. ..	75
Intracranial Haemorrhage .. .. .. .. .. ..	17

**Congenital Deformities:**

Hydrocephalus .. .. .. .. .. ..	2
Other .. .. .. .. .. ..	7
Atelectasis .. .. .. .. .. ..	3
Hyaline Membrane .. .. .. .. .. ..	2
Haemorrhage .. .. .. .. .. ..	3
Gastro-enteritis .. .. .. .. .. ..	4
Pneumonia .. .. .. .. .. ..	8
Neo-natal Sepsis .. .. .. .. .. ..	1

**Operations**

	Clinic	Non-Clinic	Total
Lower Segment Caesarean Section	82	19	101
Forceps .. .. ..	43	3	46
Dilatation and Curettage ..	0	6	6
Manual Removal of Placenta ..	8	2	10
Perineorrhaphy .. ..	9	2	11
Sterilisations .. ..	7	0	7
Hysterectomy .. ..	2	3	5
Vesico-vaginal fistulae .. ..	0	1	1
Internal Podalic Version ..	8	3	11
Breech Extractions .. ..	10	2	12
Secondary Suture .. ..	1	1	2
Artificial Rupture of Membranes	19	0	19
Craniotomy .. ..	0	3	3
Incision of Abscess .. ..	2	8	10
Extra-uterine Pregnancy ..	1	0	1
Division of Vaginal Septum ..	1	0	1
Inversion of Uterus .. ..	0	1	1
Vulvectomy .. ..	0	1	1
Repair of Exomphalos .. ..	1	0	1
	204	55	259

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**The indications for Caesarean Section were:**

Disproportion .. .. .. .. .. ..	58
Foetal Distress .. .. .. .. .. ..	5
Placenta Praevia .. .. .. .. .. ..	7
Brow Presentation .. .. .. .. .. ..	2
Previous Caesarean Section .. .. .. .. .. ..	9
Ruptured Uteri .. .. .. .. .. ..	7
Maternal Distress .. .. .. .. .. ..	1
Bad Obstetric History .. .. .. .. .. ..	3
Prolapsed Cord .. .. .. .. .. ..	2
Prolapsed Arm .. .. .. .. .. ..	1
Previous vesico-vaginal repair .. .. .. .. .. ..	1
Unclassified .. .. .. .. .. ..	5

**VENEREAL DISEASES CLINIC**

The year was one of progress and expansion. Persistent efforts to obtain suitable accommodation for the clinic resulted in the re-occupation, in March, of the building in Lamu Road, Pumwani, originally built for and occupied by this section, but compulsorily evacuated during the Emergency, and subsequently used by the African Affairs Department. It should be noted that the clinic was originally designed for the examination and treatment of female V. D. cases only, whereas since 31st March, 1958, both male and female clinics have been conducted there.

The takeover of male V. D. from the Government Dispensary on 31st March, 1958, was another item for which no accurate provision could be made at the time when the 1958 estimates were prepared, with the result that the only male nursing staff available was a part-time dresser from another section who had been trained in V. D. work in the Army.

The Government Dispensary had seen 2,000 new male V. D. cases during 1957, and it was expected, therefore, that approximately 1,500 new male cases would attend Pumwani clinic during the last nine months of 1958. The actual number of new male cases seen during this period was 2,215, with a maximum of 32 new cases examined during one afternoon session. While it is satisfactory to report that such numbers attend voluntarily, it does mean that, with the present staff, insufficient time can be devoted to such things as microscopic diagnosis, and worthwhile but time-consuming treatments such as urethral irrigations and dilatations. It also means that many opportunities for clinical research and the publication of scientific reports in medical journals must be neglected. This is doubly unfortunate in view of the wide variety of clinical material available—material such as is rarely, if ever nowadays, available in medical teaching centres in Britain.

From his experience in the V. D. Clinic, the present consultant is of the opinion that the venereal diseases must be rife throughout Kenya and that there is still in this country a great need to provide modern and enlightened facilities for the diagnosis and treatment of these diseases, which must extract a vast toll of ill-health, misery and loss of earning power. It should also be noted that the venereal diseases know no racial barriers, whereas treatment facilities at Pumwani V. D. Clinic are for Africans only.

It will be seen from the tables which follow that no home visits for the important work of following up defaulters are recorded for male patients, the reason being that no staff was available.

The work of the female clinic has remained at roughly the same level in 1958 (new cases diagnosed 1,420) as in 1957 (new cases diagnosed 1,408).

The following tables are intended to give a general picture of the volume of work undertaken, and are set out in such a way that figures for males and females can be compared at a glance, but it must be remembered that the male figures cover a nine month period only, while the female figures cover a whole year's work.

			April to December
		Female	Male
<b>SYPHILIS</b>			
Total number of new cases (all stages) diagnosed in 1958 ..		314	259
Total number of patients who completed one full course of treatment .. .. .. .. .. .. .. ..		284	130
Number who completed more than one course of treatment ..		36	9
Total attendances for observation and treatment .. .. ..		4,190	1,796
<b>GONorrhoea</b>			
No. of new cases diagnosed .. .. .. .. .. .. ..		213	873
No. of attendances for observation and treatment.. .. ..		1,115	2,211
<b>NON-SPECIFIC INFECTIONS</b>			
No. of new cases diagnosed .. .. .. .. .. ..		893	574
No. of attendances for observation and treatment.. .. ..		3,141	1,364
<b>HOME VISITS—DEFULTERS (FEMALE ONLY)</b>			
No. of home visits by clinic staff .. .. .. .. ..		756	
No. of patients interviewed at home .. .. .. ..		330	
No. of patients returned following home visit .. .. ..		218	
<b>DOMESTICS EXAMINED</b>			
Total .. .. .. .. .. .. .. .. ..		90	142
No. found to have V. D. .. .. .. .. .. ..		8	107
<b>KAHN TESTS</b>			
No. of blood specimens taken .. .. .. .. .. ..		2,969	2,308
No. of Kahn tests POSITIVE or DOUBTFUL .. .. .. ..		604	280
No. of Kahn tests NEGATIVE .. .. .. .. ..		2,365	2,028
<b>SMEARS FOR GONOCOCCI</b>			
Urethral and Cervical .. .. .. .. .. ..		5,694	1,154
Vaginal .. .. .. .. .. ..		67	—
Eyes .. .. .. .. .. ..		34	—
<b>INJECTIONS GIVEN</b>			
Penicillin .. .. .. .. .. ..		3,286	2,321
Streptomycin .. .. .. .. .. ..		286	551
<b>TOTAL ATTENDANCES</b> .. .. .. .. ..		8,470	6,940

TOTAL ATTENDANCES MALE AND FEMALE=15,410

**INOCULATION CENTRE****Inoculations and Vaccinations 1958**

				Europeans	Asians	Africans	Total
Smallpox	..	..	..	5,570	9,866	509	15,945
Yellow Fever	..	..	..	3,463	9,784	225	13,472
T. A. B.	..	..	..	480	752	244	1,476
Cholera	..	..	..	287	2,767	7	3,061
Diphtheria/Pertussis	..	..	..	123	34	1	158
Diphtheria	..	..	..	22	43	3	68
Whooping Cough	..	..	..	14	—	—	14
							34,194
Polio (all races)	..	..	..				6,025
Tetanus(all races)	..	..	..				22
Plague (all races)	..	..	..				52
				9,959	23,246	989	40,293

**Poliomyelitis Inoculation.**

Because of the excellent work done by the Government Medical Department, we have received enough poliomyelitis vaccine to inoculate all people of all races, and of any age, who wish to have this done.

The cover of the population of Nairobi is still inadequate, however, particularly amongst Europeans and Asians, and in 1959 it is hoped to do a considerable propaganda campaign, particularly in schools, to encourage people to become vaccinated.

## FUNERALS AND MORTUARY SERVICE

The first year of operation of the reorganised funeral and mortuary service has proved that the planning of a high grade, modern establishment to have been most necessary. The higher standard of service has been much appreciated by the public.

Everything in connection with funeral arrangements has now been taken over by the staff from the bereaved relatives. In fact, apart from a short interview with the Funerals Superintendent, the relatives have nothing further to do with organising the interment.

New designs in coffins and caskets have been made, and these have given the public a wider selection, at reduced prices. It is hoped that in 1959, by going out to tender, coffin and casket prices will be further reduced.

**96** Embalming has now been taken over by the department, the Funerals Superintendent carrying out this service and signing the necessary certificates. The Funerals Superintendent is the only professional embalmer in East Africa. Prior to this work being done by this department, embalmings were carried out by medical practitioners who had no special knowledge of the processes involved.

A new schedule of embalming fees has been set out, which it is hoped will bring the embalming service into greater use. Eventually, it is anticipated that an embalming will be a normal procedure in every funeral, especially in tropical or semi-tropical countries.

There has been a big increase in the numbers of cases admitted to the mortuary. In the old mortuary an average of 270 cases each year were dealt with. 495 cases have been received at the new mortuary during 1958. Of these, 439 were subjected to postmortem examinations, against an average of 250 at the old mortuary.

### Cases handled at Mortuary.

	From Nbi. City	Outside City	Afr.	Asian	Euro- pean	P.M.	No. P.M.
1957	256	60	240	41	35	291	25
1958	414	81	372	48	75	439	56

**Free Burial of African Dead carried out by Department.**

From:

	<b>K.G. VI.</b>	<b>A. M. H.</b>	<b>Mathari</b>	<b>I. D. H.</b>	<b>Prisons</b>	<b>Mortuary</b>
1957	262	208	22	22	1	57
1958	266	165	17	10	1	106

**European Funerals** (including Goans, Seychellois and Christian Indians).

1957: 262

1958: 271

**Pauper Funerals.**

**1957            1958**

2	9
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## HEALTH CENTRES

On March 31st, 1958, the Nairobi City Council began an African Health Centre service which was designed to fulfil the responsibility for the treatment of sick Africans resident in the city, which responsibility had been carried out previously by the Government Dispensary.

Four Health Centres were opened—at Bahati, Kaloleni and Pumwani in the African residential areas, and the headquarters at Rhodes Avenue, near the centre of the city.

The real purpose was that the Health Centres should serve as a type of out-patients department for King George VI Hospital. The aim was to provide a basic medical service for lower waged Africans in particular, with a good diagnostic service, and to make all necessary forms of therapy available to them. Specialist treatment and investigations were still to be referred to the hospital or appropriate Government medical section.

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### Staff.

At the inception, the staff consisted of one Medical Officer in Charge, two Grade II Medical Officers (one of whom was employed for mornings only), four European sisters and twelve African dressers.

The urbanised African is much more demanding of health services than the African in the reserves, and it was soon evident that additional staff would be needed. During the year, the staff increased gradually to, at the end, four Medical Officers, five European sisters and twenty-two African dressers.

At the end of 1958, the number of attendances was still rising, and it is thought that more staff will be required in 1959 if the standard of attention is to be maintained.

In principle, the design of the Health Centres was reasonably good. Financial restrictions, however, resulted in the rooms being small for comfortable working under stress, the construction being of poor quality, and the design not being as satisfactory as it would have been had the architect been allowed more latitude. The result of this is that expansion structurally is not possible, and the serious problem also arises that any increase in staff will now require more buildings. It will be very difficult to provide working accommodation for more doctors, sisters or dressers in the present buildings.

## Fees.

When the service began, it was decided with the agreement of the Government, to charge Shs. 2/- for a week's treatment for adults and Sh. 1/- for children. It has been decided to raise the fees from the 1st January, 1959, to Shs. 3/- per adult and Sh. 1/50 per child for each week's treatment. Even now, it is doubtful whether it will be possible to keep the fees at this low rate. The demand is increasing, and it has been found that the expenditure is much greater than was expected.

## Documentation.

From the outset, it was decided to work out a system of documentation which would result in the patient's history being available to the doctor each time the patient came along, even after a prolonged absence from the Health Centres.

By a system of trial and error, it has been possible to develop such a scheme which is relatively simple to operate. It depends on the patient always keeping in his possession a reference card. It is found that Africans rarely lose such a card, and so the scheme is working very well.

## Problems.

Many problems faced the Department before the scheme went into operation. The figures of patient attendances at and the running costs of the General Dispensary were not of great value in assessing the likely demand and costs of these Health Centres. The estimated number of monthly attendances, namely 20,000, has proved to be very good. Had the Department been able to put up the type of buildings which it considered would have been adequate for 20,000, the situation would be now much better than it is, and it is unlikely that we would be faced with the necessity of having to build new buildings for additional staff.

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The greatest difficulty was the staff requirement, and this was under-estimated to a considerable extent. On the other hand, it was considered better to have to augment the staff rather than reduce it in the light of experience.

A multitude of problems arose after the Centres were opened; many of them took a considerable time to solve; many of them have not yet been entirely solved.

There have been few complaints considering the numbers who have passed through the Health Centres. The most general complaint is that patients have to wait for a considerable time—perhaps two or three hours—before they get attention. It must be borne in mind, however, that this is a basic service and that a quick throughput would mean heavy additional costs. The patients themselves could help in this if they distributed themselves throughout the day in their attendance. The majority arrive at between 8 and 8.30 a.m.

### **Assessment.**

It was anticipated that the service would create great problems and difficulties but these have been no greater than expected and have generally been dealt with satisfactorily. It is considered that a good basic service is being given to the African population. The staff, however, are still working under great pressure, and calculations show that patients pass through at the rate of one every three minutes (this includes reattendances), which does not give the doctors and sisters adequate time in which to see patients. The standard of medicine which the doctors and sisters can practice is not as desirable as it should be.

Much could be done to help this situation by the education of the African in understanding health and health problems. The Health Centres were originally intended to carry out some of this function. Regrettably, it is now seen that this will not be possible without a great increase in staff and buildings, which is unlikely to occur in times of such financial stringency.

## **AFRICAN HEALTH CENTRES.**

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### **SUMMARY 1958.**

#### **NEW CASES.**

Centre.		City Council	Govern-ment	Privately employed	Un-employed	Women and Children	Re-attendance	Total	Night Cases
1. Bahati	..	394	1164	2767	67	9137	19875	33,404	
2. Kaloleni	..	62	1616	2258	93	7629	22614	34,272	
3. Pumwani	..	103	1930	4552	473	8150	13812	29,020	132
4. Rhodes Avenue		1447	5553	9714	593	9662	28371	55,340	2164
		2006	10263	19291	1226	34578	84672	152,036	2296

## STAFF CLINIC

From the 1st July, 1958, the staff clinic was set up at the Pumwani Health Centre, after consultation with heads of sections in all departments.

A doctor sees the sick employees himself daily, and a clinic of about eighty persons is generally cleared by about midday. Attendances are generally of the order of 1,500 to 2,000 a month, but in spite of this fairly high attendance rate, the actual number of work days lost to the City Council through sickness is only of the order of less than  $\frac{1}{2}\%$ . This is an extremely good record of 'health' in an average of 4,000 employees, and is due in no small part to the fact that disease is seen when it first manifests itself, thus considerably shortening the time necessary for treatment.

**SCHEDULE OF STAFF**

Post	Name of Officer
Medical Officer of Health	A. T. G. Thomas, M.D., B.S., D.P.H.
Deputy M. O. H.	J. W. McAllan, M.B., Ch.B., D.P.H.
Chief Health Inspector	H. T. Beechey, Cert. R.S.I. and Meat Dip. R.I.P.H.H. (Hons.)
Health Inspectors (Grade I)	Mr. D. Mackintosh, Cert., R.S.A.S. Mr. A. Ramshaw, Cert., R.S.I. and Meat Mr. S. Daley, Cert., R.S.I. and Meat Mr. G. B. Ashford, Cert., R.S.A.S. and Meat Mr. J. Knowles, Cert., R.S.I. and Meat Mr. P. H. Newbold, Cert., R.S.I. and Meat Mr. G. V. Boid, Cert., R.S.A.S. and Meat Mr. D. Hastie, Cert., R.S.A.S. and Meat Mr. D. N. Faulkner, Cert., R.S.I. and Meat Mr. R. D. Belsare, Cert., R.S.I. (India) and Meat Cert. (Eng.) Cert. Trop Hy. (Rtd. March)
Health Inspectors (Grade II)	Mr. Mohd. Din, Cert., R.S.I. (India) Mr. M. I. Shah, Cert. R.S.I. (India) (from June)
Health Inspectors (Grade III) African	Mr. N. Mimano, Cert., R.S.I. (E.A.) Mr. T. L. Muganda, Cert., R.S.I. (E.A.) Mr. J. A. Ngaruiya, Cert., R.S.I. (E.A.) (to June) Mr. W. H. Njerenga, Cert. R.S.I. (E.A.) (from August) Mr. G. A. Otieno, Cert., R.S.I. (E.A.)

**102****Clerical Staff:**

Administrative Assistant	Mr. R. C. Forster, M.B.E. Certs., R.S.I. etc.
Secretary	Mrs. C. Burge
Stenographer	Mrs. I. L. Cairns
Clerk/Typists	Mrs. D. I. Butcher (to Oct.) Mrs. S. Powell Mrs. M. C. Emmott (from Nov.)

**Inoculation Clinic:**

Assistant Medical Officer	F. S. Gillespie, M.B., B.Ch., B.A.O.
Nursing Sisters	Mrs. E. Sullivan, S.R.N., (March-May)
	Mrs. M. N. Wilson, R.G.N. (Scotland) (from May)

**Infectious Diseases Control Section:**

Officer-in-Charge	Mr. J. Morrill
Mosquito Inspectors	Mr. A. Gocs Mr. L. H. Clough (from 1st Nov.) Mr. J. H. Odell (from 2nd Sept. to 20th Oct.) Mr. M. I. Shah, Cert. R.S.I. (India) (to 31st May) Mr. M. Y. Ahmed

Post	Name of Officer
Malaria Overseer	Mr. S. Keli
Rodent Officer	Mr. L. H. Clough (to 31st Oct.)
Rodent and Vermin Overseer	Mr. J. Karebe
Statistician	Mrs. G. H. Millership
Laboratory Technicians	Mr. W. Ongare Mr. S. Otieno Mr. G. Moitta Mr. J. Achimbo
Infectious Diseases Investigator	

**European Child Welfare:**

Assistant Medical Officer (Grade I)	P. Gaffikin, M.B., Ch.B.
Health Visitors	Mrs. E. M. Sullivan, S.R.N. (to Feb) Mrs. F. Angel, S.R.N., S.C.M., H.V. Mrs. I. B. Pereira, S.R.N., S.C.M., H.V. Cert. (from Sept.)

**Parklands Day Nursery:**

Matron	Mrs. I. B. J. Ross-Whyte, Princess Louise Childrens' Nurse.
Assistant Matron	Mrs. C. Carcasson, S.R.N.
Assistants	Mrs. C. Randall Mrs. L. Somen Mrs. K. Bolden Mrs. H. Priest Mrs. G. Doubleday Miss E. M. Munster (from July)
Assistants (Part time)	Mrs. M. Leimuller Mrs. O. Rosson Mrs. S. Warren (to May) Mrs. H. Davies, S.R.N., S.C.M. (from May) Mrs. Thompson Mrs. K. Twohey, S.R.N. (May-Dec.)

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**Woodley Day Nursery:**

Matron	Mrs. I. E. Daley, R.F.N.
Assistant Matron	Mrs. L. M. Simpson (Froebel trained)
Assistants	Mrs. G. Whipp Mrs. G. Burnett Mrs. E. Reid (from Feb.) Mrs. Pacini Mrs. P. Dowdell (to April) Mrs. B. Palmer, N.N.E.B.
	Mrs. E. Newbold, S.R.N. (to Feb.) Mrs. R. Crane (from May) Mrs. E. Coleman (to Aug.) Mrs. E. Burgin

**High Ridge Day Nursery:**

Matron	Mrs. L. D. Snowball
Assistant Matron	Mrs. E. H. Johannes, Teacher's Diploma and Domestic Science Diploma (Lebanon)

Post	Name of Officer
Assistants	Mrs. O. Pereira Mrs. L. Gunputrau Mrs. S. L. Puri
Assistant (part time or temporary)	Miss Gill Mrs. Monteiro Miss Logisse

**African Maternity and Child Welfare:**

Medical Officers	J. A. T. Henry, M.B.E., M.B., Ch.B., D.T.M. and H. (retired Jan) E. Haskard, M.R.C.S., L.R.C.P., D.P.H.
Supervisor of Health Visitors	V. R. Hume, M.B., B.S., M.R.C.S., L.R.C.P., D.T.M. and H. B. B. Mapstone, M.B., Ch.B. (Jan) V. Bhardwaj, M.B., B.S., (Lucknow) (from March) J. M. Brocklesby M.B., B.S., (Feb-March) Mrs. J. N. Jackson, S.R.N., S.R.S. (Children) C.M.B. (to Jan) Mrs. C. Chalupka, S.R.N. S.C.M., H.V. Cert.
Supervisor of District Midwives	Mrs. C. M. Davis, S.R.N., S.C.M., H.V.
Health Visitors	Mrs. B. J. Brooks, S.R.N., S.C.M. Mrs. I. B. Pereira, S.R.N., S.C.M., H.V. Cert. (To Oct.) Mrs. T. H. Wilson, S.R.N., S.C.M. (Rsd. May) Mrs. D. M. MacLean, S.R.N., S.C.M. (Special Premature Baby Nursing Cert.) Miss B. Davies, S.R.N., S.C.M., (1st part) H.V. Cert. Mrs. B. M. Mulholland, S.R.N., S.C.M. (Rsd. Dec.) Mrs. A. Hoyle S.R.N., S.C.M., D.N.O. Mrs. B. J. Taylor, S.R.N., S.C.M. (to Oct.) Mrs. E. M. C. E. Wolff, S.R.N., S.C.M. (1st Part) (to Oct.) Mrs. D. Wensley, S.R.N., S.C.M. Mrs. H. Strevens (from Oct.) Miss E. Edgar, S.R.N., S.C.M. (Nov.) Mrs. C. Giles (Dec.)

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**Venereal Diseases Clinic:**

Medical Officer	T. Lyall, M.D.
European Sister	Mrs. M. Bracken, S.R.N., S.C.M.

**Lady Grigg African Maternity Hospital:**

Medical Superintendent	C. J. Goosen, M.B., B.Ch., M.M.S.A., M.R.C.O.G., (from August) P. Anderson, L.R.C.P., M.R.C.S., (Resigned March).
Matron	Miss J. Koppert, S.R.N., S.C.M. Mrs. E. Greening, S.R.N., S.C.M. Miss I. W. Connie, S.R.N., S.C.M. Miss M. K. Donnellan, S.R.N., S.C.M. Mrs. F. C. Goosen, S.R.N., C.M.B.

**Asian Maternity and Child Welfare.**

Assistant Medical Officer (Grade I)	P. Gaffikin, M.B., Ch.B.
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Post	Name of Officer
Assistant Medical Officer (Grade II)	P. M. Anderson, L.R.C.P., M.R.C.S.
Supervisor of Health Visitors	Mrs. M. Arthur, S.R.N., S.C.M. H.V., Cert. R.S.H.
Assistant Supervisor Midwives	Mrs. B. J. Taylor, A.R.R.C., S.R.N., S.C.M.
Health Visitors	Mrs. E. Tyagi, S.R.N., S.C.M., D.H.V. (Kenya) Mrs. R. Pachecos, S.R.N., S.C.M., D.H.V., (Kenya) Mrs. N. Nayer, D.H.V. (Kenya). Mrs. J. Safri, D.H.V. (Kenya). Mrs. M. Sandu, D.H.V. (Kenya) Mrs. K. B. Saleem, D.H.V. (Kenya) Mrs. Gurcharan Singh, D.H.V. (Kenya) Mrs. S. Daya, D.H.V. (Kenya) (May to Aug) Miss Shirin Ahamed, D.H.V. (Kenya) Miss Gulshan Ahamed, D.H.V. (Kenya) Mrs. T. K. Trilochan Singh, D.H.V. (Kenya) Miss S. Shafi, S.C.M., D.H.V. (Kenya) (May to Aug) Miss N. Shafi, S.C.M., D.H.V. (Kenya) (May to Aug.) Miss H. Haroon, D.H.V. (Kenya) (from Oct.) Miss V. Khanna, D.H.V. (Kenya) (from Sept.)
Clerk Interpreter	Miss D. K. Sehmi

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#### **Health Centres:**

Medical Officer in Charge	G. C. Gould, M.B., B.S.
	R. Singh Ahluwalia, L.R.C.P., L.R.C.S., L.R.F.P. and S.
	W. Morton, M.B., Ch.B., D.R.C.O.G.
Nursing Sisters	Miss E. M. Sanctuary, S.R.N., S.C.M. Mrs. V. Hook, S.R.N. S.C.M. Mrs. L. Jack, S.R.N. Mrs. R. Miller, S.R.N., S.C.M. Mrs. N. Reade, S.R.N., S.C.M.
Medical Stores	Mrs. J. Young, S.R.N., T.A. Cert.

#### **Chest Clinic:**

Medical Officer	B. M. P. Van der Werf, M.D. (Utrecht)
Health Visitor	Mrs. F.M. Adams, S.R.N., B.T.A. Cert.

#### **Funerals and Mortuary:**

Superintendent	F. Clayton, M.B.I.E.
Funerals Assistant	M. A. Butt (from May)
Mortuary Assistant and	Mr. U. Singh Gill
African Burials	Mr. J. M. Singh (Retired April)

# GENERAL FUND REVENUE ACCOUNT FOR THE PUBLIC HEALTH SERVICES

## EXPENDITURE

### Public Health Administration:

	£ s. cts.	£ s. cts.
<b>Employees—</b>		
Salaries .. .. .. .. .. ..	31,478. 9.80	
Housing Allowances .. .. .. .. ..	777.12.89	
Superannuation Charges.. .. .. .. ..	4,706.18.39	
Provident Fund Contributions .. .. .. .. ..	166.14.93	
Passages Reserve Contribution .. .. .. .. ..	420. 0.00	
Medical Benefits .. .. .. .. ..	217.18.29	
Wages etc.—African Staff .. .. .. .. ..	563. 8.87	
New Appointments .. .. .. .. ..	403.15.67	
	<hr/>	<hr/>
	38,734.18.84	

### Running Expenses—

#### Equipment

Maintenance of Equipment .. .. .. .. ..	5.10.95
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#### Transport

Locomotion .. .. .. .. ..	1,339. 4.41
Other Transport .. .. .. .. ..	171.12.00

#### Establishment Expenses

Printing, Stationery and Advertising .. .. .. .. ..	376. 8.58
Printing Report .. .. .. .. ..	230. 0.00
Postages.. .. .. .. ..	311.11.23
Telephone .. .. .. .. ..	452. 3.82
Insurances .. .. .. .. ..	669.10.00
Uniforms .. .. .. .. ..	34.12.04
Rent of Offices .. .. .. .. ..	3,031. 7.95
Electricity .. .. .. .. ..	12,630. 0.00

#### Miscellaneous

Bacteriological Examinations.. .. .. .. ..	250. 0.00
Food and Drug Analysis .. .. .. .. ..	280. 1.50
Health Education .. .. .. .. ..	324. 9.43
Purchase of Laboratory Equipment .. .. .. .. ..	21.18.15
Other Expenses .. .. .. .. ..	4.12.85
Removal of Inoculation Centre .. .. .. .. ..	290. 0.10

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20,423. 3.01

59,158. 1.85

*Less: Charged to Inoculation Centre and Poultry Abattoir* .. .. .. .. ..

1,455. 0.00

*Carried forward* .. .. .. .. ..

57,703. 1.85

## YEAR ENDED 31st DECEMBER, 1958

### INCOME

£ s. cts

£ s. cts

#### Public Health Administration:

##### Government Grant—

General .. . . . .	93,956.17.67	
Special .. . . . .	19,017.15.07	
Special Services .. . . . .	6,809.14.73	
Fees—Food and Drug Analysis etc. .. . . .	3.10.00	
	119,787.17.47	

## EXPENDITURE

					£    s. cts		£    s. cts
	<i>Brought forward.. .</i>	..	..	..	57,703. 1.85		
<b>Infectious Diseases Prevention:</b>							
<b>Employees—</b>							
Salaries	..	..	..	..	8,101. 7.96		
Housing Allowances	..	..	..	..	424. 6.20		
Superannuation Charges	..	..	..	..	892. 9.17		
Provident Fund Contributions	..	..	..	..	118. 0.22		
Medical Benefits	..	..	..	..	95.16.97		
Wages etc.—African Staff	..	..	..	..	14,163. 0.00		
New Appointments	..	..	..	..	48. 0.50		
					<hr/>		
					23,843. 1.02		
<b>Running Expenses—</b>							
<b>Premises</b>							
Maintenance of Buildings	..	..	..	..	16. 7.89		
Alterations to Buildings	..	..	..	..	87. 3.69		
Water and Conservancy	..	..	..	..	4. 7.00		
<b>Supplies, Equipment etc.</b>							
Stores and Materials	..	..	..	..	3,081. 1.79		
New Equipment	..	..	..	..	184.16.83		
Laboratory Equipment	..	..	..	..	269. 0.69		
Uniforms	..	..	..	..	603. 7.28		
Typewriter	..	..	..	..	85. 0.00		
<b>Transport</b>							
Locomotion	..	..	..	..	979. 8.80		
T. I. F. A. Unit—Running Expenses	..	..	..	..	7.17.77		
T. I. F. A. Unit—Renewals Reserve Contribution					100. 0.00		
Purchase of Motor Cycle	..	..	..	..	77. 0.87		
Other Transport	..	..	..	..	3,556. 2.34		
<b>Establishment Expenses</b>							
Printing, Stationery and Advertising	..	..	..	..	277.15.36		
Telephone	..	..	..	..	128. 0.00		
Rent of Offices	..	..	..	..	665.13.27		
Insurances	..	..	..	..	3. 5.00		
<b>Miscellaneous</b>							
Hospital Fees	..	..	..	..	2,874.12.00		
Notification Fees	..	..	..	..	15. 2.00		
Other Expenses	..	..	..	..	3 . 0.20		
					<hr/>		
					13,019. 2.78		
<i>Carried forward</i>	..	..	..	..	<hr/>		
					94,565. 5.65		

**INCOME**

	£	s.	cts	£	s.	cts
<i>Brought forward.. .</i>	..	..	..	119,787.	17.	47
<b>Infectious Diseases Prevention:</b>						
Vermin and Rodent Destruction ..	..	..	..	3,009.	16.	31
Malaria Control ..	..	..	..	68.	17.	50
				<hr/>		
				3,078.	13.	81

*Carried forward* .. .. .. .. .. .. 122,866.11.28

## EXPENDITURE

		£    s. cts	£    s. cts
<i>Brought forward.. .</i>	.. .. ..	..	94,565. 5.65
<b>Inoculation Centre:</b>			
Employees—			
Salaries	.. .. ..	..	2,196.18.15
Housing Allowances	.. .. ..	..	118. 0.27
Superannuation Charges	.. .. ..	..	29. 5.65
Provident Fund Contributions	.. .. ..	..	10.11.51
Medical Benefits	.. .. ..	..	15.00
		<hr/>	<hr/>
		2,355.10.58	
Running Expenses—			
Furniture and Fittings	.. .. ..	..	2. 8.23
Supplies, Equipment etc.			
Medical Stores and Equipment	.. .. ..	..	3,353. 0.89
Cleaning Materials	.. .. ..	..	3.13.35
Uniforms	.. .. ..	..	7. 8.50
Laundry	.. .. ..	..	19.11.00
<b>Transport</b>			
Locomotion	.. .. ..	..	10. 3.90
<b>Establishment Expenses</b>			
Printing, Stationery and Advertising	.. .. ..	..	22.15.74
Telephone	.. .. ..	..	42.13.34
Rent of Offices	.. .. ..	..	355.11.08
Departmental Establishment Charges	.. .. ..	..	1,400. 0.00
		<hr/>	<hr/>
		5,217. 6.03	
<i>Carried forward</i>	.. .. ..	..	102,138. 2.26

**INCOME**

	£	s.	cts	£	s.	cts
<i>Brought forward..</i>	..	..	..	122,866.	11.	28

**Inoculation Centre:**

Government Contribution for Inoculation	..	..	900.	0.	00	
Vaccination and Inoculation Fees	..	..	120.	14.	50	
Poliomyelitis Fees	..	..	6,324.	15.	50	
				7,345.	10.	00

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<i>Carried forward</i>	..	..	..	130,212.	1.	28
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## EXPENDITURE

					£    s. cts		£    s. cts
	<i>Brought forward.. .</i>	..	..	..	102.138. 2.26		
	<b>Venereal Diseases Treatment:</b>						
	<b>Employees—</b>						
	Salaries .. .. .. .. ..				3,474.11.78		
	Housing Allowances .. .. .. ..				220.10.36		
	Superannuation Charges .. .. .. ..				405. 9.70		
	Provident Fund Contributions .. .. .. ..				20.12.70		
	Medical Benefits .. .. .. ..				24.14.46		
	Wages, etc.—African Staff .. .. .. ..				535.14.55		
					<hr/>		
					4,681.13.55		
	<b>Running Expenses—</b>						
	<b>Premises</b>						
	Fencing .. .. .. .. ..				94.18.25		
	Maintenance of Buildings .. .. .. ..				115.13.47		
	Alterations to Buildings .. .. .. ..				543. 4.36		
	Cleaning Materials .. .. .. ..				32.10.82		
	Water and Conservancy .. .. .. ..				37. 2.00		
	Electricity and Fuel .. .. .. ..				72. 9.85		
	<b>Supplies, Equipment etc.</b>						
112	Equipment .. .. .. .. ..				48. 0.50		
	Medical Stores and Equipment .. .. .. ..				1,288. 5.47		
	Uniforms .. .. .. .. ..				40.10.80		
	Furniture .. .. .. .. ..				51. 0.86		
	<b>Transport</b>						
	Locomotion .. .. .. .. ..				31.16.22		
	Other Transport .. .. .. .. ..				33.12.00		
	<b>Establishment Expenses</b>						
	Printing, Stationery and Advertising .. .. ..				56. 5.43		
	Rent .. .. .. .. ..				23. 0.00		
	Insurances .. .. .. .. ..				18.00		
	Other Expenses .. .. .. .. ..				4.62		
					<hr/>		
					2,469.12.65		
	<b>Tuberculosis Survey:</b>						
	<b>Employees—</b>						
	Salaries .. .. .. .. ..				2,315. 6.51		
	Housing Allowances .. .. .. .. ..				82.12.68		
	New Appointments .. .. .. .. ..				1.17.50		
					<hr/>		
					2,399.16.69		
	<i>Carried forward</i> .. .. .. ..				<hr/>		
					111,689.5.15		

## INCOME

	£	s.	cts		£	s.	cts
<i>Brought forward..</i>	..	..	..		130,212.	1	28
<b>Venereal Diseases Treatment:</b>							
Rent .. . . . .	..	..	..		18.	0	00

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*Carried forward* .. . . . . 130,230. 1.28

## EXPENDITURE

	£	s.	cts.	£	s.	cts.
<i>Brought forward</i>	..	..	..	111,689.	5.	15
<b>Tuberculosis Survey—(Continued)</b>						
<b>Employees—</b>						
<b>Running Expenses—</b>						
<b>Premises</b>						
Maintenance of Buildings .. .. .. ..	33.	2.	57			
Maintenance of Furniture and Fittings .. .. .. ..	4.	15.	00			
Electricity .. .. .. ..	50.	7.	28			
Water and Conservancy .. .. .. ..	4.	15.	25			
Cleaning Materials .. .. .. ..	20.	7.	90			
<b>Supplies, Equipment, etc.</b>						
Maintenance of Equipment .. .. .. ..	8.	15.	90			
Uniforms .. .. .. ..	25.	8.	06			
Medical Stores .. .. .. ..	130.	9.	43			
<b>Transport</b>						
Locomotion .. .. .. ..	100.	16.	41			
Other Transport .. .. .. ..	25.	4.	00			
<b>Establishment Expenses</b>						
Printing, Stationery and Advertising .. .. .. ..	61.	9.	29			
Telephone .. .. .. ..	32.	14.	99			
Insurances .. .. .. ..	1.	0.	70			
<b>Miscellaneous</b>						
Other Expenses .. .. .. ..	18.	63				
				<hr/>	500.	5.41
<b>Loan Charges—</b>						
Principal .. .. .. ..	5.	85				
Interest .. .. .. ..	116.	17.	30			
				<hr/>	117.	3.15
<i>Carried forward</i>	..	..	..	<hr/>	112,306.	13.71

## INCOME

	£   s.   cts.		£   s.   cts.
<i>Brought forward.. .</i>	.. .. .. ..		130 ,230   1   28

115

<i>Carried forward .. .</i>	.. .. .. ..		130 ,230   1   28
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## EXPENDITURE

	£	s.	cts	£	s.	cts
<i>Brought forward..</i>	..	..	..	112,306.	13.	71
<b>Day Nurseries:</b>						
<b>European—Parklands</b>						
<b>Employees—</b>						
Salaries .. .. .. .. .. ..	5,140.	4.	63			
Superannuation Charges .. .. .. .. .. ..	101.	18.	48			
Passages Reserve Contribution .. .. .. .. .. ..	56.	00	00			
Medical Benefits .. .. .. .. .. ..	13.	11.	20			
New Appointments .. .. .. .. .. ..	17.	2	00			
Wages etc.—African Staff .. .. .. .. .. ..	414.	18.	55			
	<hr/>			5,743.	14.	86
<b>Running Expenses—</b>						
<b>Premises</b>						
Maintenance of Buildings .. .. .. .. .. ..	145.	3.	23			
Alterations to Buildings .. .. .. .. .. ..	59.	17.	68			
Maintenance of Furniture and Fittings .. .. .. .. .. ..	98.	17.	92			
New Furniture .. .. .. .. .. ..	17.	15.	00			
Maintenance of Grounds .. .. .. .. .. ..	159.	19.	21			
Fencing .. .. .. .. .. ..	3.	0	00			
Electricity and Fuel .. .. .. .. .. ..	246.	16.	29			
Water and Conservancy .. .. .. .. .. ..	132.	1	00			
Cleaning Materials .. .. .. .. .. ..	115.	18.	78			
Rates .. .. .. .. .. ..	137.	5	00			
Renewals Reserve Contributions .. .. .. .. .. ..	125.	0	00			
<b>Supplies, Equipment etc.</b>						
Maintenance of Equipment etc. .. .. .. .. .. ..	117.	12.	01			
New Equipment .. .. .. .. .. ..	97.	14.	65			
Provisions .. .. .. .. .. ..	1,318.	10.	31			
Uniforms .. .. .. .. .. ..	49.	12.	79			
<b>Transport</b>						
Other Transport .. .. .. .. .. ..	39.	0.	95			
<b>Establishment Expenses</b>						
Printing, Stationery and Advertising .. .. .. .. .. ..	26.	2.	38			
Telephone .. .. .. .. .. ..	63.	7	20			
Insurances .. .. .. .. .. ..	5.	1	00			
<b>Miscellaneous</b>						
Loans Fund Expenses .. .. .. .. .. ..	11.	3.	51			
Other Expenses .. .. .. .. .. ..	20.	16.	65			
	<hr/>			2,990.	15.	56
<b>Loan Charges—</b>						
Principal .. .. .. .. .. ..	293.	15.	01			
Interest .. .. .. .. .. ..	467.	19.	61			
	<hr/>			761.	14.	62
Provision for Capital Expenditure Extensions (Balance) .. .. .. .. .. ..				269.	16.	83
<i>Carried forward</i>	..	..	..	122,072.	15.	58

## INCOME

	£	s.	cts	£	s,	cts
<i>Brought forward.. .</i>	..	..	..	130,230.	1	28
<b>Day Nurseries:</b>						
<b>European—Parklands</b>						
Fees .. .. .. .. ..	9,141.	1	45			
Other Income .. .. .. .. ..	8.10.00					
	<hr/>					
	9,149.11.45					

<i>Carried forward .. .. .. ..</i>	<hr/>	139,379.12.73
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## EXPENDITURE

	£	s.	cts.	£	s.	cts.
<i>Brought forward..</i>	..	..	..	..	..	122,072.15.58
<b>Day Nurseries (contd.)</b>						..
<b>European—Woodley</b>						
<b>Employees—</b>						
Salaries .. .. .. .. ..	4,426.	13.	64			
Superannuation Charges .. .. .. ..	133.	8.	12			
Housing Allowances .. .. .. ..	59.	18.	88			
Medical Benefits .. .. .. ..	27.	2.	24			
Wages etc.—African Staff .. .. ..	373.	15.	40			
	<hr/>			<hr/>		
				5,020.18.28		
<b>Running Expenses—</b>						
<b>Premises</b>						
Maintenance of Buildings .. .. ..	83.	19.	74			
Alterations to Buildings .. .. ..	55.	8.	80			
Maintenance of Grounds .. .. ..	131.	1.	06			
Tarmac Apron Playground .. .. ..						
Maintenance of Furniture and Fittings .. .. ..	101.	6.	45			
New Furniture and Fittings .. .. ..						
Electricity and Fuel .. .. ..	272.	11.	56			
Water and Conservancy .. .. ..	113.	9.	44			
Cleaning Materials .. .. ..	112.	5.	34			
Rates .. .. ..	61.	5.	00			
Renewals Reserve Contribution .. .. ..	150.	0.	00			
<b>Supplies, Equipment etc.</b>						
Maintenance of Equipment .. .. ..	142.	12.	38			
New Equipment .. .. ..	81.	5.	97			
Provisions .. .. ..	1,511.	11.	74			
Uniforms .. .. ..	47.	12.	72			
<b>Transport</b>						
Locomotion .. .. ..	3.15.	20				
Other Transport .. .. ..	38.	5.	95			
<b>Establishment Expenses</b>						
Printing, Stationery and Advertising .. ..	19.	9.	54			
Telephone .. .. ..	63.	3.	15			
Insurances .. .. ..	4.10.	00				
<b>Miscellaneous</b>						
Loans Fund Expenses .. .. ..	19.	17.	81			
Other Expenses .. .. ..	23.	4.	92			
	<hr/>			<hr/>		
				3,036.16.77		
<b>Loan Charges—</b>						
Principal .. .. ..	601.	2.	78			
Interest .. .. ..	679.	4.	12			
	<hr/>			<hr/>		
<i>Carried forward</i>	..	..	..	131,410.17.53		

I N C O M E

	£	s.	cts	£	s.	cts
<i>Brought forward..</i>	..	..	..	..	..	139,379.12.73
<b>Day Nurseries (contd.)</b>						
<b>European—Woodley</b>						
Fees .. .. .. .. .. ..	6,309.	13.	95			
Rent of Flat .. .. .. .. ..	120.	00	00			
				<hr/>		
				6,429.13.95		

## EXPENDITURE

### **Running Expenses—**

## Premises

Maintenance of Buildings .. .. ..	202.	9.06
Maintenance of Grounds .. .. ..	74.	5.40
Fencing .. .. .. .. ..	3.	0.00
Maintenance of Furniture and Fittings .. ..	18.	8.27
Electricity and Fuel .. .. .. ..	185.	3.44
Water and Conservancy .. .. .. ..	95.	8.00
Cleaning Materials .. .. .. ..	53.	13.21
Rates .. .. .. .. ..	81.	7.50
Renewals Reserve Contribution .. .. ..	85.	0.00

120

## Transport

Other Transport .. .. .. .. .. 37.16.00

### **Supplies, Equipment etc.**

Maintenance of Equipment	..	..	..	32.16.65
New Equipment	..	..	..	169.14.08
Provisions	..	..	..	892. 6.16
Uniforms	..	..	..	17. 8.23

## **Establishment Expenses**

Printing, Stationery and Advertising	..	..	1. 4.10
Telephone	..	..	28. 2.30
Insurances	..	..	1.10.00
Other Expenses	..	..	10.12.98

1,990. 5.38

*Carried forward* .. .. .. ..

136,329. 1.23

**INCOME**

	£	s.	cts.	£	s.	cts.
<i>Brought forward.. .</i>	..	..	..	..	..	..
<b>Day Nurseries (contd.)</b>						
Asian—High Ridge						
Fees .. .. .. .. .. ..	..	..	..	..	..	..
<i>Carried forward</i>	..	..	..	..	..	..
	<b>145,809.</b>	<b>6.</b>	<b>68</b>	<b>4,188.</b>	<b>8.</b>	<b>50</b>
	<hr/>					
	<b>149,997.</b>	<b>15.</b>	<b>18</b>			

## EXPENDITURE

	£	s.	cts.	£	s.	cts.
<i>Brought forward.. .</i>	..	..	..	..	..	136,329. 1.23
<b>Maternity and Child Welfare:</b>						
<b>European</b>						
<b>Employees—</b>						
Salaries .. .. .. .. .. ..	2,534.	7.	76			
Superannuation Charges .. .. .. .. .. ..	165.	12.	12.			
Provident Fund Contributions .. .. .. .. .. ..	13.	14.	24			
Medical Benefits .. .. .. .. .. ..	10.	14.	45			
New Appointments .. .. .. .. .. ..	13.	8.	00			
	<hr/>			<hr/>		
				2,737.	16.	57
<b>Running Expenses—</b>						
<b>Premises</b>						
Maintenance of Buildings .. .. .. .. .. ..	16.	13.	36			
Fencing .. .. .. .. .. ..	21.	11.	22			
Maintenance of Furniture and Fittings .. .. .. .. .. ..	20.	7.	75			
New Furniture and Fittings .. .. .. .. .. ..	63.	8.	70			
Electricity and Fuel .. .. .. .. .. ..	5.	8.	00			
Water and Conservancy .. .. .. .. .. ..	9.	12.	00			
Rates .. .. .. .. .. ..	15.	0.	00			
Renewals Reserve Contribution .. .. .. .. .. ..	25.	0.	00			
<b>I22 Supplies, Equipment etc.</b>						
New Equipment .. .. .. .. .. ..	25.	13.	00			
Medical Stores and Equipment .. .. .. .. .. ..	85.	2.	45			
Maintenance of Equipment .. .. .. .. .. ..	1.	1.	78			
Purchase of Infant Food .. .. .. .. .. ..	1,328.	14.	57			
Uniforms .. .. .. .. .. ..	9.	14.	64			
<b>Transport</b>						
Locomotion .. .. .. .. .. ..	212.	7.	11			
<b>Establishment Expenses</b>						
Printing, Stationery and Advertising .. .. .. .. .. ..	40.	19.	90			
Insurances .. .. .. .. .. ..	12.50					
<b>Miscellaneous</b>						
Loans Fund Expenses .. .. .. .. .. ..	1.	5.	35			
	<hr/>			<hr/>		
				1,882.	12.	33
<b>Loan Charges</b>						
Principal .. .. .. .. .. ..	69.	14.	69			
Interest .. .. .. .. .. ..	125.	9.	67			
	<hr/>			<hr/>		
				195.	4.	36
<i>Carried forward</i> .. .. .. .. .. ..						
				141,144.	14.	49

I N C O M E

	£	s.	cts.	£	s.	cts.
<i>Brought forward.. . . . .</i>						<i>149,997.15.18</i>

**Maternity and Child Welfare**

**European**

Sale of Foods .. . . . .						<i>1,350.10.95</i>
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<i>Carried forward .. . . . .</i>						<i>151,348. 6.13</i>
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## EXPENDITURE

	£	s. cts.	£	s. cts.
<i>Brought forward.. . . . .</i>				<b>141,144.14.49</b>
<b>Maternity and Child Welfare (contd.)</b>				
<b>Asian</b>				
<b>Employees—</b>				
Salaries .. .. .. .. ..	12,456.	5.73		
Superannuation Charges .. .. .. ..	1,231.	1.26		
Provident Fund Contributions .. .. ..	158.	10.88		
Passage Reserve Contribution .. .. ..	40.	0.00		
Medical Benefits .. .. .. ..	124.	18.37		
Wages etc.—African Staff .. .. ..	314.	0.60		
			<b>14,324.16.84</b>	
<b>Running Expenses—</b>				
<b>Premises</b>				
Maintenance of Buildings .. .. .. ..	242.	11.07		
Alterations to Buildings .. .. .. ..	26.	10.00		
Maintenance of Grounds .. .. .. ..	96.	10.64		
Maintenance of Furniture and Fittings .. ..	72.	12.49		
New Furniture and Fittings .. .. ..	84.	9.50		
Fencing and Gates .. .. .. ..	95.	2.62		
Electricity and Fuel .. .. .. ..	218.	0.43		
Water and Conservancy .. .. .. ..	57.	13.00		
Cleaning Materials .. .. .. ..	50.	12.02		
Rates .. .. .. ..	75.	15.20		
Renewals Reserve Contribution .. .. ..	200.	0.00		
<b>Supplies, Equipment, etc.</b>				
Medical Stores and Equipment .. .. .. ..	486.	15.56		
Maintenance of Equipment .. .. .. ..	6.	12.32		
New Equipment .. .. .. ..	149.	1.37		
Uniforms .. .. .. ..	118.	4.92		
<b>Transport</b>				
Locomotion .. .. .. ..	435.	4.81		
Other Transport .. .. .. ..	1,131.	5.62		
<b>Establishment Expenses</b>				
Printing, Stationery and Advertising .. .. ..	170.	12.22		
Telephone .. .. .. ..	72.	11.05		
Insurances .. .. .. ..	3.	2.00		
<b>Miscellaneous</b>				
Health Visitors' Training Scheme .. .. ..	12.	8.05		
Midwives' and Dais' Training Scheme .. .. ..	30.	6.40		
Night Security .. .. .. ..	152.	9.10		
Loans Fund Expenses .. .. .. ..	4.	15.61		
			<b>3,993. 6.00</b>	
<b>Loan Charges—</b>				
Principal .. .. .. .. ..	114.	19.24		
Interest .. .. .. .. ..	97.	16.23		
			<b>212.15.47</b>	
<i>Carried forward .. .. .. ..</i>				<b>159,675.12.80</b>

**INCOME**

	£	s.	cts.	£	s.	cts.
<i>Brought forward.. .</i>	..	..	..	..	..	151,348.
<b>Maternity and Child Welfare (contd.)</b>						
<b>Asian</b>						
Training Fees	..	..	..	..	..	6.12.50
Other Income	..	..	..	..	..	3.12.50
						<hr/> 10. 5.00

*Carried forward* .. .. .. .. .. .. 151,358.11.13

## EXPENDITURE

	£ s. cts.	£ s. cts.
<i>Brought forward.. .</i>	.. .. ..	159,675.12.80
<b>Maternity and Child Welfare (contd.)</b>		
<b>African</b>		
<b>Employees—</b>		
Salaries .. .. .. .. ..	16,573.17.52	
Housing Allowances .. .. .. ..	551. 7.07	
Superannuation Charges .. .. .. ..	685. 9.27	
Provident Fund Contribution .. .. .. ..	157. 4.03	
Passages Reserve Contribution .. .. .. ..	60. 0.00	
Medical Benefits .. .. .. ..	55. 0.57	
New Appointments .. .. .. ..	14. 9.00	
Wages etc.—African Staff .. .. .. ..	3,252. 4.15	
	<hr/>	21,349.11.61
<b>Running Expenses—</b>		
<b>Premises</b>		
Maintenance of Buildings .. .. .. ..	367. 2.44	
Maintenance of Grounds .. .. .. ..	166.13.75	
Maintenance of Furniture, etc. .. .. .. ..	10. 1.41	
Electricity and Fuel .. .. .. ..	181.16.05	
Water and Conservancy .. .. .. ..	202.12.55	
Cleaning Materials .. .. .. ..	80.16.94	
Rents .. .. .. ..	332.17.10	
Rates .. .. .. ..	155.15.00	
<b>Supplies, Equipment etc.</b>		
Medical Stores and Equipment Clinics .. ..	1,105. 2.72	
Medical Stores and Equipment Midwives .. ..	147. 0.02	
Maintenance of Equipment .. .. ..	68. 5.05	
New Equipment .. .. .. ..	83. 1.76	
Teaching Unit .. .. .. ..	3. 4.15	
Purchase of Infant Foods .. .. .. ..	503. 0.11	
Uniforms .. .. .. ..	320.11.06	
<b>Transport</b>		
Locomotion .. .. .. ..	478. 9.26	
Other Transport .. .. .. ..	1,735. 1.81	
<b>Establishment Expenses</b>		
Printing, Stationery and Advertising .. ..	230.15.72	
Telephone .. .. .. ..	136.14.33	
Insurances .. .. .. ..	7.18.80	
<b>Miscellaneous</b>		
Christmas Parties .. .. .. ..	19.14.00	
Loans Fund Expenses .. .. .. ..	2.13.85	
	<hr/>	6,339. 7.88
<b>Loan Charges—</b>		
Principal .. .. .. .. ..	213. 8.90	
Interest .. .. .. .. ..	618. 6.01	
	<hr/>	831.14.91
<i>Carried forward</i>	.. .. ..	188,196. 7.20

## INCOME

	£	s.	cts.	£	s.	cts.
<i>Brought forward.. .</i>	..	..	..	..	..	151,358.11.13
<b>Maternity and Child Welfare (Contd.)</b>						
<b>African</b>						
Fees .. .. .. .. .. ..	538.	8.	00			
Sale of Foods .. .. .. .. ..	390.	11.	50			
Other Income .. .. .. .. ..	44.	3.	00			
	<hr/>			973.	2.	50

## EXPENDITURE

	£ s. cts.	£ s. cts.
<i>Brought forward</i>	.. .. .. .. ..	188,196. 7.20
<b>African Health Centres:</b>		
<b>Employees—</b>		
Salaries .. .. .. .. ..	10,107.19.15	
Housing Allowances .. .. .. .. ..	189.17.46	
Superannuation Charges .. .. .. .. ..	577. 4.78	
Medical Benefits .. .. .. .. ..	45.15.68	
New Appointments .. .. .. .. ..	325.15.45	
Wages etc.—African Staff .. .. .. .. ..	219. 9.85	
	<hr/>	11,466. 2.37
<b>Running Expenses—</b>		
<b>Premises</b>		
Maintenance of Buildings .. .. .. .. ..	107. 8.68	
Alterations to Buildings .. .. .. .. ..	799. 3.35	
Maintenance of Grounds .. .. .. .. ..	17. 9.50	
Maintenance of Furniture and Fittings .. .. .. .. ..	22.18.07	
Electricity and Fuel .. .. .. .. ..	186.15.06	
Water and Conservancy .. .. .. .. ..	155. 6.00	
Cleaning Materials .. .. .. .. ..	139.16.42	
Rents .. .. .. .. ..	5.15.00	
Rates .. .. .. .. ..	7.17 50	
<b>Supplies, Equipment etc.</b>		
Medical Stores and Equipment .. .. .. .. ..	11,340. 4.35	
Maintenance of Equipment .. .. .. .. ..	104. 7.40	
Typewriter .. .. .. .. ..	34. 4.00	
Uniforms .. .. .. .. ..	79.18.25	
Laundry .. .. .. .. ..	131. 3.25	
<b>Transport</b>		
Locomotion .. .. .. .. ..	261. 4.30	
Other Transport .. .. .. .. ..	270. 5.45	
<b>Establishment Expenses</b>		
Printing, Stationery and Advertising .. .. .. .. ..	966.15.76	
Telephone .. .. .. .. ..	79.19.37	
Insurance .. .. .. .. ..	4.13.27	
<b>Miscellaneous</b>		
Other Expenses .. .. .. .. ..	1. 7.50	
	<hr/>	14,716.12.48
<b>Loan Charges—</b>		
Principal .. .. .. .. ..	15.18.84	
Interest .. .. .. .. ..	226. 1.66	
	<hr/>	242. 0.50
<i>Carried forward</i>	.. .. .. .. ..	214,621. 2.55

## INCOME

129

*Carried forward* .. .. .. .. .. 160,632.12.24

## EXPENDITURE

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .	214,621. 2.55	
<b>Lady Grigg Maternity and Training Hospital:</b>		
<b>Employees—</b>		
Salaries .. . . . .	8,276. 2.87	
Housing Allowances .. . . . .	52. 0.00	
Superannuation Charges .. . . . .	474.12.65	
Provident Fund Contributions .. . . . .	6.10.44	
Passages Reserve Contribution .. . . . .	57. 0.00	
Medical Benefits .. . . . .	35. 7.81	
Wages etc.—African Trainees .. . . . .	734. 8.45	
Wages etc.—African Domestic Staff .. . . . .	1,607. 9.65	
New Appointments .. . . . .	312. 0.72	
	<hr/>	11,555.12.59
<b>Running Expenses—</b>		
<b>Premises</b>		
Maintenance of Buildings .. . . . .	1,224. 8.52	
Alterations to Buildings .. . . . .	2,434.17.29	
Fencing .. . . . .	170. 7.96	
Maintenance of Grounds .. . . . .	395.15.65	
Maintenance of Furniture and Fittings .. . . . .	369. 3.23	
New Furniture and Fittings .. . . . .	277. 7.20	
Electricity and Fuel .. . . . .	1,497. 9.64	
Water and Conservancy .. . . . .	761.10.20	
Cleaning Materials etc. .. . . . .	465.13.06	
Rates .. . . . .	364.17.50	
Renewals Reserve Contribution .. . . . .	500. 0.00	
<b>Supplies, Equipment etc.</b>		
Maintenance of Equipment .. . . . .	98. 1.54	
New Equipment .. . . . .	108.12.12	
Linen and Cutlery .. . . . .	444. 3.43	
Medical Stores .. . . . .	2,970. 1.37	
Provisions .. . . . .	2,236.14.70	
Uniforms .. . . . .	234. 6.52	
<b>Transport</b>		
Other Transport .. . . . .	648.11.78	
<b>Establishment Expenses</b>		
Printing, Stationery and Advertising .. . . . .	150.16.41	
Telephone .. . . . .	146. 6.30	
Insurances .. . . . .	16.19.50	
<b>Miscellaneous</b>		
Consultants' and Anaesthetists' Fees .. . . . .	1,475. 5.00	
Recreation and English Tuition .. . . . .	4.19.00	
Library Books .. . . . .	—	
Loans Fund Expenses .. . . . .	30. 3.88	
Other Expenses .. . . . .	4. 3.00	
	<hr/>	17,030.14.80
<b>Loan Charges—</b>		
Principal .. . . . .	1,020. 6.69	
Interest .. . . . .	1,093. 9.14	
	<hr/>	2,113.15.83
<i>Carried forward</i> .. . . . .	245,321. 5.77	

## INCOME

131

*Carried forward* .. .. .. .. .. 166,023. 1.24

## EXPENDITURE

						£ s. cts.	£ s. cts.
<i>Brought forward</i>	..	..	..	..	..		245,321. 5.77
<b>Ambulance Service:</b>							
<b>General</b>							
<b>Employees</b>							
Wages etc.—Drivers	..	..	..	..	..		594. 8.78
<b>Running Expenses—</b>							
Equipment	..	..	..	..	..	23. 9.38	
Uniforms	..	..	..	..	..	21. 1.00	
Transport	..	..	..	..	..	88. 1.33	
Insurance	..	..	..	..	..	2. 9.10	
Renewals Reserve Contribution	..	..	..	..	..	200. 0.00	
Printing, Stationery and Advertising	..	..	..	..	..	4. 0.00	
						<hr/>	
Establishment Expenses	..	..	..	..	..		339. 0.81
							200. 0.00
<b>African Estates:</b>							
<b>Employees—</b>							
Wages etc.—Drivers	..	..	..	..	..		770. 9.55
<b>Running Expenses—</b>							
Equipment	..	..	..	..	..	<hr/>	
Transport	..	..	..	..	..	503. 13.21	
Renewals Reserve Contribution	..	..	..	..	..	608. 8.00	
Printing, Stationery and Advertising	..	..	..	..	..	2.10.00	
Insurance	..	..	..	..	..	4.18.20	
						<hr/>	
							1,119. 9.41
<b>Anti-Malarial Works:</b>							
<b>Construction of Drains (see opposite)</b>							
Payments to Contractors	..	..	..	..	..		5,020. 9.69
<b>Maintenance of Drains:</b>							
<b>Employees—</b>							
Wages etc.—Artisans	..	..	..	..	..	1,074. 0.65	
Wages etc.—African Staff	..	..	..	..	..	1,125. 14.40	
Stores and Materials	..	..	..	..	..	803. 7.72	
Transport and Plant	..	..	..	..	..	460. 5.83	
						<hr/>	
							3,463. 8.60
<b>Cleaning of Drains:</b>							
<b>Employees—</b>							
Wages etc.—African Staff	..	..	..	..	..	2,735. 4.64	
Stores and Materials	..	..	..	..	..	117. 17.40	
Transport and Plant	..	..	..	..	..	853. 9.84	
Charges—Other Departments	..	..	..	..	..	7.17.50	
						<hr/>	
<i>Carried forward</i>	..	..	..	..	..		3,714. 9.38
							<hr/>
							260,543. 1.99

## INCOME

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .		166,023. 1.24
<b>Ambulance Service:</b>		
Hire Charges—General .. . . .	511.12.00	
—African Estates .. . . .	290. 9.50	
		802. 1.50

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Construction of Drains (see opposite)		
	£ s. cts.	
L. R. 37—Off Buckleys Road .. .	2,628. 6.25	
Asian Civil Service Ground—off Park Rd. ..	2,392. 3.44	
	5,020. 9.69	

*Carried forward* .. . . . .

166,825. 2.74

## EXPENDITURE

		£ s. cts.	£ s. cts.
<i>Brought forward</i>	.. .. .. .. ..	260,543. 1.99	
<b>Mortuary, Funerals and Cemeteries:</b>			
<b>Supervision and Mortuary:</b>			
<b>Employees—</b>			
Salaries .. .. .. .. ..	2,506.18.55		
Superannuation Charges .. .. .. .. ..	187.14.32		
Provident Fund Contributions .. .. .. .. ..	48. 5.15		
Passages Reserve Contributions .. .. .. .. ..	80. 0.00		
Medical Benefits .. .. .. .. ..	51. 3.18		
Wages etc.—African Staff .. .. .. .. ..	203.15.35		
New Appointments .. .. .. .. ..	6. 2.50		
		<hr/>	<hr/>
		3,083.19.05	
<b>Running Expenses—</b>			
<b>Premises</b>			
Maintenance of Buildings .. .. .. .. ..	69. 6.67		
Maintenance of Grounds .. .. .. .. ..	23.16.83		
Electricity and Fuel .. .. .. .. ..	156. 9.46		
Water and Conservancy .. .. .. .. ..	73.10.00		
Cleaning Materials .. .. .. .. ..	23. 0.29		
Rates .. .. .. .. ..	31.10.00		
Renewals Reserve Contribution .. .. .. .. ..	200. 0.00		
<b>Supplies, Equipment etc.</b>			
Maintenance of Equipment .. .. .. .. ..	33. 3.84		
General Stores .. .. .. .. ..	58.12.40		
Uniforms .. .. .. .. ..	28.12.19		
<b>Transport</b>			
Locomotion .. .. .. .. ..	192.13.92		
<b>Establishment Expenses</b>			
Printing, Stationery and Advertising .. .. ..	14. 0.27		
Telephone .. .. .. .. ..	98. 2.73		
Insurances .. .. .. .. ..	6.11.50		
Central Establishment Expenses .. .. .. .. ..	495. 0.00		
Other Expenses .. .. .. .. ..	1.12.55		
		<hr/>	<hr/>
		1,506. 2.65	
<i>Carried forward</i>		265,133. 3.69	

## INCOME

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .		166,825. 2.74
<b>Mortuary, Funerals and Cemeteries:</b>		
Supervision and Mortuary:		
Government Contribution—1958 .. . .	1,050. 0.00	
Government Contribution—Balance 1957 .. . .	89.10.00	
	<hr/>	1,139.10.00

*Carried forward*

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167,964.12.74

**EXPENDITURE**

	£    s. cts.	£    s. cts.
<i>Brought forward</i> .. . . . .	265,133.3.69	
(Less: Charged to Funerals and Burials) .. .	2,682.11.96	
	<hr/>	262,450.11.73

**Funerals—European and Asian:**

**Employees—**

Allowances to Staff .. . . . .	174. 7.00
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**Running Expenses—**

Cost of Coffins .. . . . .	4,809.12.73
Lettering Plates .. . . . .	82.10.00

**Transport**

Hearse—Running Expenses .. . . . .	91.11.30
Hearse—Renewals Reserve Contribution .. . .	200. 0.00
Printing, Stationery and Advertising .. . .	24.10.00
Central Establishment Expenses .. . . . .	335. 0.00
Other Expenses .. . . . .	31. 2.65
Supervision and Mortuary .. . . . .	1,389. 9.46
	<hr/>
	6,963.16.14

**INCOME**

	£    s.   cts.	£    s.   cts.
<i>Brought forward</i> .. . . . .		167,964.12.74
<b>Funerals—European and Asian:</b>		
Funeral Charges .. . . . .	8,949. 9.40	
Maintenance of Graves .. . . . .	137. 5.00	
Other Income .. . . . .	91. 3.00	
	—————	9,177.17.40

*Carried forward* .. . . . .

## EXPENDITURE

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .	269,588.14.87	
<b>Mortuary, Funerals and Cemeteries (contd.)</b>		
<b>African Burials:</b>		
<b>Supplies, Equipment etc.</b>		
Stores .. . . . .	79. 1.97	
<b>Transport</b>		
Hearse—Running Expenses .. . . .	131.16.09	
Hearse—Renewals Reserve Contribution .. . .	167. 4.00	
<b>Establishment Expenses—</b>		
Central Establishment Charges .. . . .	75. 0.00	
Supervision and Mortuary .. . . .	1,293. 2.50	
	<hr/>	1,746. 4.56
<b>Cemeteries—General</b>		
<b>Employees—</b>		
Wages etc.—African Staff .. . . .	1,382. 4.40	
<b>Running Expenses—</b>		
<b>Grounds</b>		
Water and Conservancy .. . . .	74. 7.32	
<b>Supplies, Equipment etc.—</b>		
Stores .. . . . .	46. 6.91	
Uniforms .. . . . .	66.12.76	
<b>Transport</b>		
Other Transport .. . . . .	41. 5.94	
<b>Establishment and Other Expenses</b>		
Insurances .. . . . .	30.18.00	
Central Establishment Charges .. . . .	270. 0.00	
Parks Department Establishment Charges .. . .	200. 0.00	
Loans Fund Expenses .. . . .	11.08	
	<hr/>	730. 2.01
<b>Loan Charges—</b>		
Principal .. . . . .	7.17.61	
Interest .. . . . .	11. 3.23	
	<hr/>	19. 0.84
<b>Special Work (see note opposite)</b>		
Wages etc. .. . . .	243.16.31	
Transport .. . . . .	26.10.62	
Stores and Materials .. . . . .	18.15.56	
	<hr/>	289. 2.49
<b>Provision for Capital Expenditure—</b>		
New Cemetery—Langata .. . . .	4,000. 0.00	
	<hr/>	
<i>Carried forward</i> .. . . . .	277,755. 9.17	

## INCOME

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .		177,142.10.14
<b>Mortuary, Funerals and Cemeteries (contd.)</b>		
<b>African Burials:</b>		
Burial Fees .. . . . .		533.14.64

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Details of Special Work (see Opposite)						£ s. cts.
<b>South Cemetery—</b>						
Grassing and Drainage .. . . .						54.11.19
<b>Forest Road Cemetery—</b>						
Re-grassing .. . . .						99. 6.07
New Surface Drainage .. . . .						29.10.45
Repairs to Wall, Chapel .. . . .						17.82
<b>Park and Forest Road Cemeteries—</b>						
Repairs to Memorials .. . . .						35. 9.23
Grave Numbering .. . . .						69. 7.73
						<hr/> 289. 2.49 <hr/>

*Carried forward* .. . . . .

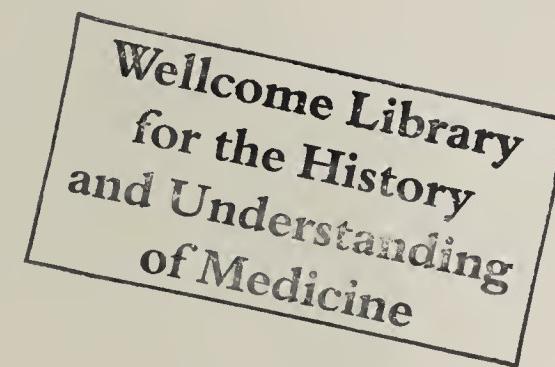
177,676. 4.78

## EXPENDITURE

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. .. .. .. ..	277,755. 9.17	
<b>Mortuary, Funerals and Cemeteries (contd.)</b>		
<b>Cemeteries—African.</b>		
<b>Employees—</b>		
Wages etc.—African Staff .. .. .. ..	1,045.13.05	
<b>Running Expenses—</b>		
<b>Grounds</b>		
Maintenance of Buildings .. .. .. ..	68. 1.92	
Maintenance of Grounds .. .. .. ..	2. 5.03	
Water and Conservancy .. .. .. ..	30.12.12	
<b>Supplies, Equipment, etc.</b>		
Loose Tools, etc. .. .. .. ..	25. 9.33	
Uniforms .. .. .. ..	20. 2.42	
<b>Establishment Expenses</b>		
Insurances .. .. .. ..	25. 0.00	
Central Establishment Charges .. .. ..	75. 0.00	
Loans Fund Expenses .. .. ..	1. 1.22	
Other Expenses .. .. .. ..	3. 3.50	
	<hr/>	250.15.54
<b>140</b>		
<b>Loan Charges—</b>		
Principal .. .. .. ..	15. 1.90	
Interest .. .. .. ..	21. 7.61	
	<hr/>	36. 9.51
<b>Provision for Capital Expenditure—</b>		
Preparation of New Cemeteries	300. 0.00	
	<hr/>	
<b>TOTAL</b> .. ..	279,388. 7.27	
	<hr/>	

## INCOME

	£ s. cts.	£ s. cts.
<i>Brought forward</i> .. . . . .		177,676. 4.78
Mortuary, Funerals and Cemeteries ( <i>contd.</i> )		



TOTAL .. . .	<hr/> 177,676. 4.78 <hr/>
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